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Ichnographia Ruſtica:

OR, THE

Nobleman, Gentleman, and Gardener's

RECREATION.

CONTAINING

DIRECTIONS for the general Diſtribution of a Country Seat, into Rural and Extenſive Gardens, Parks, Paddocks, *&c.*

And a General

Syſtem of AGRICULTURE,

ILLUSTRATED.

With great Variety of COPPER-PLATES, done by the beſt Hands, from the AUTHOR's Drawings.

VOL. III.

By *STEPHEN SWITZER*, Gardener, ſeveral Years Servant to Mr. *London* and Mr. *Wiſe*.

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To the Right Honourable the

Earl of *PEMBROKE*,

This TREATISE of

Rural Gardening

Is humbly Dedicated

By his LORDSHIP's

Moſt obedient Servant,

Stephen Switzer.

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THE

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The INTRODUCTION *to Rural and Extensive Gardening, &c.*

THAT the chief Satisfaction and Pleasure of the Mind (next to it's own Serenity, Innocence and Tranquillity, and the Noblest Instinct of human Nature, it's Sacred, Inexpressible and Divine Effervescence) arises from, and it's Flame is maintain'd by exteriour Objects, every Person that lives a thoughtful and virtuous Life, will I doubt not readily own.

FOR tho' there are many Benefits convey'd to the Senses by Sound, and tho' Taste affords some gross Entertainment to the Body: Yet as an ingenious Author express'd it, our Sight is the most perfect, and most delightful of all our Senses; and certain it is, that there is that unutterable Pleasure, that affects the Mind by Opticks, and other intuitive Knowledge, that is not to be found in any other common Matter.

THUS when we view the Heavens in a serene and calm Day, and in par-

ticular, that bright and dazling Luminary the Sun: Or otherwiſe, in a fine clear Night the Starry Orb beſpangled with all that innumerable Company of glittering Beauties; and if to this be added a Knowledge of their Motions, Revolutions, *&c.* In what a vaſt and pleaſing Ocean is the Mind embark'd.

In like manner, when we take a Survey of the watry Part of the World, and of the Numberleſs Inhabitants of the great Deep, of their Shape and Contexture; and how Nature has provided them with every Thing that is proper for their Subſiſtence and Safety: In that aqueous Element, there ſeems to be an Immenſity of Speculation.

If we penetrate into the Bowels of the Earth, (where Sight indeed does not always reach) and conſider the ſeveral Kinds of Earth, Minerals and Foſſiles, that are often found in the Beds and Strata's thereof, if we conſider it Mathematically, as it is ſuppos'd to turn on it's own Axis, and thoſe almoſt unaccount-

accountable Laws it ſubſiſts by, there is ſcarce any End of our Inquiries.

BUT of all the Works of the Creation, none calls for our Attention more than the Superficies of the Earth, the Work of the Third Day, the Beautifulneſs there is in the Proſpect of it the excellent Uſes and Variety therein are Studies and Speculations that excel all others.

AND amidſt all; that of a Country Seat diſtributed with Judgment, may well be accounted one of the greateſt; in this every Perſon makes to himſelf a Kind of a new Creation, and when a Seat or *Villa*, is decently and frugally diſtributed, what a Harmony does it create in a virtuous Mind, beſides, the many groſſer Uſes of it to the Body.

ALL other Employs have ſome things that are Pleaſant in them, but in this there is a happy Compoſition of every thing, that can poſſibly make Man's Life and Labour agreeable, and give an Innocent Gratification to all his Senſes: The general

View of his well disposd Seat gratifies the Sight, the numberless feather'd Choiristers that perching amongst his Woods, warble out their natural and melodious Strains the Hearing, the refreshing Breezes of Air the Feeling, and the Palate is gratify'd by an almost an innumerable Number of pleasant and nectareal Juices, and Fruits, and the Smell of Flowers, cheers the Organs of the Head in a wonderful manner. How sweetly glides the Blood thro' its several Offices, how exhilarated the Mind, and with what Flagrance and Joy (as our great Poet expresses it) does the Heart and the whole Frame of Nature overflow. How sweet are these Amusements to the Innocent and Virtuous, and how insensibly are they carried to adore that divine Power that has made them thus susceptible of their own Happiness.

To come nearer to our present purpose the Business of Gardening, Planting, and Husbandry, affords both the Mind and Body all that is

good,

good or agreeable to our Natures, and gives us the Opportunity of being more beneficial to Poſterity, than any other Study or Employ whatſoever.

But the firſt (I mean Gardening) ſome unwary People argue againſt, for it's Expence and the Alienation of ſo much Land from other uſes, with other things of this Nature: And indeed as it has been all along manag'd, it is too juſt a Charge and Blemiſh to this Buſineſs, the extravagant Methods of making and keeping Gardens is ſo chargeable and burthenſome, that it often makes very great Spirits ſink under it, and tho' they have begun with ſome Warmth, have at laſt ſunk from Time to Time, till they have laid it quite aſide, and reſigned all Thoughts of purſuing it any farther, and this moſt evidently ariſes from it's Expence.

I THEREFORE humbly ſuppoſe, it can't but be a very uſeful Subject to endeavour to reduce that Expence, into as narrow a Compaſs as poſſible,

and so to mix the profitable Part of a Country Seat with the pleasurable, that one may pay the Expence of the other.

To accomplish which nothing (in my slender Opinion (can conduce more than this rural and extensive Way of Gardening I am here proposing, where a whole Estate will appear as one great Garden, and the *Utile* harmoniously wove with the *Dulci*; and I believe, I am not singular in my Opinion, if I affirm, that an even decent Walk carry'd thro' a Corn Field or Pasture, thro' little natural Thickets and Hedge Rows, is as pleasing, as the most finish'd Partarre that some Moderns have been so fond of.

I AM not by this for excluding every thing of that kind, but that an elaborate finish'd little Garden should not determine our rural Pursuits, is what I suppose, very many will agree with me in.

THIS is in Truth, what some ingenuous Gentlemen are now attempting at, unto whom I humbly hope

the

the following Deſigns will be of Uſe, and to make it the more uſeful, I ſhall endeavour here to mark out ſome general, I may add unneceſſary Expences Gentlemen are very often at in Gardening: The firſt is walling, which is in it ſelf a great Expence; and in this one Article I have often ſeen, that there is as much Money expended, as would have embelliſh'd a hundred Acres of Ground in this rural Way I am ſpeaking.

THE firſt Thing Gentlemen commonly do after their Houſes are built, is to ſet out their Garden Walls: In this there is ſome Surveyor or Bricklayer that is very ready, it being ſome of the beſt picking they can have; and the Gardener himſelf is doubtleſs as fond of them as any thing, and thinks his Garden can't be fine, except it has a Brick Wall round it; and by this there is perhaps 5, 6, 7 or 800 *l.* and ſometimes 1000 *l.* expended, and the beautiful Proſpect of a Country loſt in the Bargain.

IT will be readily argued, that the Walls are proper for Fruit, but the Method that is generally esteem'd the best in this Case, is to make a Kitchen and Fruit Garden by it self; and even there likewise, some are often at a too great and too unnecessary Expence; there being many Sorts of Fruit that we plant against our best Walls, that will do as well against a Reed Hedge and a Lattice of Wood before it; this I shall fully handle in another Subject, and shall observe no more at present, than that in this Respect, Gentlemen should only Plant their later Fruits against Walls, and perhaps one Tree of a sort of early to accelerate their Maturation, whilst others should be planted against the Hedges I have been speaking of; which Hedges will last as long as most Fruit Trees, especially Peaches and Cherries, and be ripe within 8 or 10 Days, as soon as the best Wall will make them.

ANOTHER Expence is wooden Espaliers, against which are commonly

planted

planted Dutch Elms, Lyme, *&c.* This I have obſerv'd to a very great Expence, and ſuch a one as may in many Places be avoided.

A THIRD Expence is that elaborate Exactneſs, and the Number of Greens, Plants, and Exotics, that Gardens are generally fill'd with; this I am well aware will ſound very ungrateful in the Ears of ſome Mercenaries, and from them I expect not Thanks, but rather Reproaches, ſome little Parts near the Houſe ought to have ſomething of this Kind; but as the Owner goes farther off, it will not be unpleaſant for him to fall into natural Coppices, Paddocks, Corn Fields, and a little Gravel or Sand Walk looks there as pleaſant as any thing.

THE Wood he there has inſtead of thoſe Suffrutices or exotic Shrubs ſhould be good Oak, and other natural Furniture of our Coppices, and inſtead of their being planted, ſtak'd, water'd, and innumerable other Expences, let them be ſow'd. I know many there

are

are that have not Patience to ſtay for the Growth of ſuch Wood, but I dare pronounce, that ſuch, whoever they are, do not undertake Gardening and Planting upon ſolid and ſerious Principles, but that 'tis the ſudden Start of an impetuous Humour that will vaniſh as ſoon: Beſides to me, and I believe there are many of the ſame Opinion, a young Wood ſpringing up 1, 2, 3, or 4 Foot high, is the pleaſanteſt View in Nature, much more pleaſant than what it is at full Growth, and if there be ſome Standards in it from a preſent Shade, anſwers every Purpoſe, that a wiſe and frugal Gentleman would propoſe to himſelf in this Matter.

If theſe Hedge Rowes and Coppices were likewiſe mix'd with Fruits, ſtill the Profit of this Work would be more and more mix'd, and incorporated together.

How the Interiour Parts of theſe Gardens are to be ſecur'd, will appear in the following Schemes.

There

THERE is yet another needleſs Expence, which is often us'd in Gardening, and that is the levelling and filling up of Holes and Hollows, which if well made Uſe of, are ſome of the greateſt Beauties in Nature, to confirm which, let any Perſon whatſoever that has ſeen it, ſpeak his Thoughts of that beautiful Hollow in the New Garden at *Kenſington*, inſtead of filling up ſuch Places, what Earth ever there is to ſpare by the digging of Cellars and the like, ought to be carry'd to ſome convenient Place, and a Mount made, and planted round promiſcuouſly with Greens, Trees, *&c.* This will afford a good Proſpect from ſeveral Parts of a Garden, and by going up to the Top an agreeable view about an Eſtate, and this is more particularly neceſſary where the Scituation of a Houſe is on a large Flat.

MANY, or indeed all theſe Evils I have been ſpeaking of, ariſe chiefly from ſtiff Mathematical, fine Drafts, and more than theſe, the Fall of many

a noble

a noble Oak, which would add a greater Beauty to a Seat, than any thing that is commonly put in its Room.

THE Method commonly taken in this Affair, is, Gentlemen have their Ground survey'd, and perhaps the Levels taken, and then 'tis brought to *London*, where there are a great many Drafts-men, and Paper Engineers, so a regular fine Scheme is made, and be it at never so much Disadvantage, to the Nature of the Scituation, or lead the Owner into never so many Inconveniences, and needless Expences, it must be executed; or also perhaps the Gentleman's own Gardener undertakes it: The Capacities of most of them are too well known to the knowing Part of the World, to trust altogether to them, and they are more particularly pernicious, where their Masters are entirely guided by them.

Male agitur, cum Domino quum Villicus docet, is a Phrase I think of *Columella*'s, and very applicable in this Case.

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On the contrary, the Deſigner ought to ſee, and duly ſtudy and conſider the Nature of his Scituation, and how beſt to improve it, how to ſave Expence, and how to mix Profit and Pleaſure together.

For, not only this but an agreeable and eaſy Correſpondence of one Part of an Eſtate with another is often wanted, in ſome Places eaſily to be nam'd; perhaps a Kitchen Garden is plac'd in ſome obſcure Corner, in others Fiſh Ponds, both fine in themſelves; but if it be a dirty clayey Ground, there is no clear Correſpondence, but the Owner is oblig'd to get to theſe Parts at a very hard Rate: And this is the Caſe in ſome great Deſigns, where thoſe exteriour Works do not look as if in Reality did belong to the general Deſign; and in the Winter, 'tis as hard a matter to get to them, ſo that a thorough clean Correſpondence of all the parts of a *Villa* or Eſtate one with another, is more eligible, than the moſt elaborate and magnificent Garden in the World.

Then

THIS then is a general View of the Errors and Misapplications of Mony in a Country Seat, and such they are, that by that Time, a Gentleman has made a Garden of Ten or Twenty Acres, he is very often Sick of it, when by a little good Management, and a little Patience in the bargain, he might have made his whole adjoyning Estate of 1, 2, 3, nay sometimes 4, 5, or 600 Acres, all appear as if it was a Garden, and for the same Expence, and I will be bold to affirm, that 10 *l.* will go as far in this as 50 *l.* will in the Methods commonly taken.

THIS Natural and Rural way of Gardening will appear of more Use, when we consider the Natural Frame and Temper of Mankind; for as the Imagination is continually taken up, and pleas'd with new Objects, and roves through the vast Fields of Nature uncontroul'd, nothing will fully satisfy it, but Immensity, and we often see it verify'd, even in some very large Gardens; that the Owner after they are made,

made, cares as little for them, and would rather walk in his Corn Fields, ſomething is therefore ſtill wanting to compleat this happineſs of a Country Seat, which may very eaſily be anſwer'd, to be a decent Diſpoſition and Diſtribution of all the Eſtate and Grounds that lye contiguous to the Manſion Houſe, even if the Scope of Ground is ſo much for 3 or 4 Miles round.

It may be ſaid, that moſt Gentlemen have that already, to which I anſwer in the Negative, that tho' they have in many Places, good Woods, fine Paſture, Land, *&c.* Yet there is no eaſy Correſpondence and Communication of one Part with the other, there ſeems to be an abſolute Neceſſity; in Order to the Completion of this, that little Gravel or Sand Walks be extended quite thro' this Eſtate, for as the Pleaſure of walking and viewing the Fields, *&c.* is early in the Morning, or late in the Evening, the Dews are commonly ſo great, that 'tis impoſſible to walk therein; on the contrary, were

there

there little Sand Walks, about 6 or 8 Foot wide; how clean and decently might the Owner, his Friend and Family walk, and view the Produce of Nature, the Bleſſings of the great God of Heaven and Earth.

It would be Tautology to enforce any farther the Love of this Employ in general, or of Rural Gardening in particular; the very Name and Nature of them are deſirable, and the Owner will ſoon taſte theſe Pleaſures, that ariſe to the Recreation of the Body and Mind, therefore 'twas in their *Villa*'s, that the Antient *Greeks* and *Romans* paſs'd away the happieſt Part of their Times. How does *Horace* exult in his Sabine *Villa!* and with what wonderful Energy did *Tully* there compoſe his Orations, and by the way we may obſerve, that their Habitations was ſurrounded, rather with the general View and Proſpect of their extenſive *Villa*'s than contracted Gardens.

CHAP. I.

SECTION I.

An ESSAY on Design in general, and the necessary Qualifications of a good DESIGNER.

LET us now examine the general Idea of a good Design, and how a Country Seat may be best distributed; so that Profit and Pleasure may be well mix'd together, that those Methods that have made Gardening and Planting burthensome and expensive, may in some measure be remov'd, and that the Designs themselves may be more rural, natural, more easy, and less

expensive, both in the making, and keeping, and in Reality more intermixt both in Respect to Profit and Pleasure, than any Designs or Methods that have been yet taken.

For to speak the Truth of this matter, most of those that have pretended to give Designs in Gardening, have confin'd their Thoughts too narrowly into a sort of fine Sett Gardening, which can't be denied to be curious in its kind: But it is withal so very Expensive in the making (and which is of almost an eternal Duration the keeping) that very few Gentlemen can, or at least care to alienate so much Land, and so much Yearly Revenues, towards the Maintenance of those prodigious Gardens, which are made in some Parts of *England*. Whilst other Gentlemen of very good Genius's, and Dispositions seem (and that with a great deal of Reason) to esteem them as too stiff and formal, and (tho' very great in their way) not capable of giving so great Satisfaction to the Eye of the Beholder, as the more beautiful, tho' less elaborate Works of Nature; justly complaining that our *English* Gardeners instead of imitating Nature, love to deviate from it as much as possible, and esteem nothing worth minding that is not set off with the utmost Art imaginable. And, that if their Plants are not Pyramids or Conical, they are by no means valuable: When in truth the loose Tresses of a Tree or Plant, that is easily fann'd by every gentle Breeze

Breeze of Air, and the natural tho' unpoliſht dreſs of a beautiful Field, Lawn, or Meadow; (a little trimm'd, and the exorbitant Luxury of their Branches retrencht, cut off and redreſs'd; and when their even clean Walks of Gravel, Sand, or any other material For-Walks ſpread over) are much more entertaining than the utmoſt exactitude of the moſt finiſht Partrre, and the curiouſeſt Interlacings of Box Work and Embroidery.

Thus the ingenuous Author of the Spectator, in Order to illuſtrate and paint the Beauty of Nature beyond thoſe of Art, argues, that nothing but a Kind of Immenſity can give a real Satisfaction to the Imagination. *Our Imagination* (ſays he, Spectator IV. Vol. VI.) *loves to be fill'd with an Object, or to graſp at any thing that is too big for its Capacity: We are flung into a pleaſing Aſtoniſhment at ſuch unbounded Views, and feel a delightful Stillneſs and Amazement in the Soul in the Apprehenſion of them. The Mind of Man naturally hates every thing that looks like Reſtraint upon it, and is apt to fancy itſelf under a ſort of Confinement, when the Sight is pent up in a narrow Compaſs, and ſhortned on every ſide by the Neighbour-hood of Mountains; on the contrary a ſpacious Horizon is an Image of Liberty, where the Eye has Room to expatiate at large on the Immenſity of its Views, and to looſe itſelf amidſt the variety of Objects that offer themſelves to its Obſervation; ſuch wide and undetermin'd Proſ-*

pects are pleasing to the Fancy, as the Speculations of Eternity or Infinitude are to the Understanding. But if there be a Beauty or Uncommonness joyn'd with this Grandure, as in a troubled Ocean, a Heaven adorn'd with Stars and Meteors, or a spacious Landskip cut out into Rivers, Woods, Rocks, and Meadows; the Pleasure still grows upon us, as it arises more than from a single Principle.

Every thing that is new or uncommon raises a Pleasure in the Imagination, because it fills the Soul with a Curiosity, and gives it an Idea of which it was not before possest, we are indeed so often conversant with one Sett of Objects, and tired out with so many repeated Shows of the same things, that whatsoever is New or Uncommon contributes a little to vary human Life, and to divert our Minds for a while, with the strangeness of its Appearance: It serves us for a kind of Refreshment, and takes off from the Satiety we are apt to complain of in our usual and common Entertainments: It is this that bestows charms on a Monster, and makes even the imperfections of human Nature please us. It is this that recommends Variety, where the Mind is every Instant call'd off to something New, and the Attention not suffer'd to dwell too long, and wast itself on any particular Object. It is likewise this that improves what is Great, Beautiful, and makes it afford the Mind a double Entertainment, Groves, Fields, and Meadows, are at any season of the Year pleasant to look upon, but never

never so much as in the opening of the Spring, when they are all new and fresh, with their first Gloss upon them, and not too much accustomed and familiar to the Eye. For this Reason there is nothing that more enlivens a Prospect than Rivers, Jet d'eaux, or falls of Water, where the Scene is perpetually Shifting, and entertaining the Sight every Moment with something that is new; we are quickly tired with Hills and Valleys, where every thing continues fixt and settled in the same Place and Posture, but our thoughts a little agitated and reliev'd at the Sight of such Objects as are ever in Motion, and sliding away from beneath the Eye of the Beholder.

I might instance from him in many Places of those incomparable Papers, and bring Confirmations of what I am advancing in this Book, the Sum of all is when apply'd to our present Purpose, that the Beauty of the largest and finest of Regular Gardens is easily discover'd, whereas were they laid out in a more Natural and Rural Manner, the Eye would always be discovering new Objects, and be lost in that inexpressible somewhat to be found in the Beauty of Nature, in a Rude Copice or amidst the Irregular turnings of a wild Corn Field, these would yield more Satisfaction to the Eye of the Beholder than the regularest Scheme, of the most Skillful Planometrian.

To come nearer our purpose, if a little Regularity is allow'd near the main Building,

and aſſoon as the Deſigner has ſtroke out by Art, ſome of the rougheſt and boldeſt of his Strokes, he ought to purſue Nature afterwards, and by as many Twinings and Windings as his *Villa* will allow, will endeavour to diverſify his Views, always ſtriving that they may be ſo intermixt, as not to be all diſcover'd at once; but that there ſhould be as much as poſſible, ſomething appearing new and diverting, while the whole ſhould correſpond together by the mazie Error of its natural Avenues and Meanders.

He ſhould make the beſt of all Hills, and Dales, of all Corn Fields, high Hills, Banks and Tufts of Trees, and where-ever they ſtrike the Eye, 'tis there he ſhould create more: If to this we add that he ought upon all Occaſions to forecaſt the ſaving Expence, it will be very acceptable to a wiſe and frugal Planter.

And to the End, that he may know the better, how to make the beſt uſe of natural Advantage, he ought to make himſelf Maſter of all Rural Scenes: And the Writings of the Poets on this Subject, will give him conſiderable Hints, for in Deſign the *Deſigner* as well as the *Poet ſhould take as much Pains in forming his Imagination, as a Philoſopher in cultivating his Underſtanding; he muſt gain a due Reliſh of the Works of Nature, and be throughly converſant in the various Scenes of a Country Seat.* If he is not *well verſed*, yet he ought

ought to have a general Idea *of every thing, that is Noble and Stately in the Productions of Art, whether it appear in painting or Statuary, in the great Works of Architecture, which are in their present Glory, or in the Ruins of those which flourisht in former Ages*. For as the aforemention'd ingenuous *Author* argues in a parallel Case, *such advantages as these lies open a Man's Thoughts, and enlarges his Imagination, and as it has an Influence on a Poets writing, so it will have a great one on his Designs; and to pursue our parallel among those of the learned Languages, who excel in this Talent the most perfect in their several Kinds, are perhaps* Homer, Virgil, *and* Ovid. From these three and from some others of our own Time, and Country; the ingenuous Designer as well as Poet, may collect noble Thoughts, and Ideas of things, *from the first what is Great, from the second what is Beautiful, and from the last what is Strange.* 'Tis true as to Gardening, the thoughts of *Homer* are not so magnificent as they are in other extensive Parts of Nature, the Gardens of Alcinous are limited to a small Extent within, and no mention made of any contiguous *Villa*, or other Beautiful adjunct; but if we wander through the whole we find in other Parts of his Writings, something stupendiously Great: Such are *huge Forests mishapen Rocks and Precipices*; these a Designer, if possible, ought always to draw into his View, and at the extent of his Design, nothing will

be more entertaining, after the Fancy is as it were satiated with the interiour Meanders and other Rural and Natural Embellishments.

From *Virgil* (that great Master of Gardening and most other Arts) we may collect all that is Beautiful, his Rural Descriptions will furnish us with some Thoughts, for the Improvement of our Fancy, as his Directions do, for the Improvement of our Judgment.

And from the *Metamorphosis* of *Ovid*, the Designer may collect Statues and Ornaments, for the adorning his *Villa*, that carry the very Air of Enchantment with them.

Neither need we have Recourse to ancient Authors only, the Poets of our own Country, have drawn the beautiful Scenary of Nature, equal to, if not exceeding any thing, to found in the Ancients; how sweet is that Description of *Windsor* Forest, and how Noble and Majestick that Inimitable Description of Paradice, by Mr. *Milton*. The Poet has indeed the Advantage of the Designer, in that he can in a few Lines, and in the most Rigid Season of the Year, raise Thousands of Trees, Fruits, and Flowers, but the Designer has this Advantage over him again, that tho' his Schemes are not so soon in Perfection, they are of a more lasting date, and continue for many Years to improve upon his Hands, and likewise by the Annual Revolutions of Nature, tho' they are one Time of the Year stript

of

of all their Attire, yet they return again in the Spring to their usual Glory.

Whereas the Beauty of a Poem is one and the same thing for ever, and if not extremely well done, lasts but a little while, if it be receiv'd into the World at all.

In plain terms, tho' we do not agree with *Vitruvius*, in all the necessary Qualifications of a Surveyor and Designer, as to Law, Physick, and the like, those being Matters he has very little Occasion to converse in; he ought to be a tolerable good Mathematician, Historian, and Architect; he ought to be a Person of an active, vigorous Constitution, and very ready and quick at his Business; otherwise, he will be confounded in all large Designs, and besides spoiling them, run his Master or himself into many needless Difficulties and Expences: How much of all these, Persons that give Designs know; and how well they are qualify'd for the Business they pretend to undertake: Dismal Experience shows in many Parts of this Kingdom, and tho' the *French* have gone before, and shew'd us the Way, we have made but an indifferent Use of it, and have by no means maintain'd the well known Character of an *English* Genius, *Inventis addere.* If we would therefore arrive at any greater Perfection, than we are in Gardening, we must cashiere that Mathematical Stiffness in our Gardens, and imitate Nature more; how that is to be done

done, will appear in the following Chapters, which tho' they may not be as new designs scarce ever are the most perfect: It will at least excite some abler Master to take Pen and Pencil in Hand, and finish what is here thus imperfectly begun, and this is my Comfort, that I shall envy no Man that does it. I have God be prais'd, learn'd that Lesson, *to admire, and not envy every one that outgoes me:* And this will I hope go a great Way, in making me easy and happy under the Pressures of a very narrow Fortune, and amidst the Ruffles of an ill-natur'd World.

CHAP. II.

CHAP. II.

SECTION II.

Of the Choice of Scituations.

THE Choice of Scituations has been ſo largely hinted by all that have writ concerning Gardening; but the Method they have taken, is attended with ſo many inſuperable Difficulties, that I ſhall endeavour to abbreviate and make it more uſeful, not to terrifie or amuſe ſuch as enter upon this delightful Employ, with thoſe unneceſſary Rules and Reſtrictions, into which they are conſequently plung'd by ſuch Directions; ſince were all, that at preſent have Occaſion, to build or furniſh themſelves with Country Habitations, to obſerve but the Tythe of what has been ſo often preſcrib'd, as Eſſential to a Country Seat; 'tis hard to ſee, how 'tis poſſible they ſhould have any Seats at all.

'Tis certain, that Providence has been wonderful kind to us of theſe Iſlands, more than to any of our Neighbours; and few, very few Scituations they are, that are not in many Degrees beyond any thing (by Nature) to be read of, or ſeen abroad; what would the magnificent Gardens of the *French* and *Flemmings* be, if they were not ſet off with the utmoſt Skill and Expence that they are Maſters

ſters of? And perhaps 'tis not hard to name ſome of our Seats, and that not far from *London*, that for Nobleneſs of Proſpect much exceed any thing, that *France* or *Italy* can boaſt of; while others that have not ſo noble an Elevation, are furniſh'd plentifully with Springs, and Rills of Water, fine Cover, and the moſt beautiful Lawns of Turff, and Theatres, and Plots of Noble on Oaks, and other uſeful and umbragious Trees.

As the very great Height of Scituations, ſhould not always allure us to fix there, ſo we ſhould not be too quick in rejecting low ones; ſince the firſt, if not already furniſh'd and guarded with Wood, expoſes the Inhabiter to the mercileſs Fury of Winds, and he muſt have the nobleſt of Proſpects to compenſate this Evil to him; beſides, 'tis to be fear'd, that with this great Height, and it's Want of Wood, there is a worſe attending, and that is, a bad Soil: Whilſt in a low Scituation, provided it be not fenny, there is generally a good Soil; and if there be no Wood, it will quickly grow there; the greateſt Misfortune in ſome low Scituations is not the Want of Water, but the Slowneſs of it's Motion, which makes it unhealthy and uncomfortable; but if there be a pretty quick Fall (*viz.*) about an Inch in Ten Foot, ſo that the Rivers and Rain Waters run quick of; and if the Graſs and Paſture be clear from Ruſhes and Sedge, (as 'tis call'd in the Fenns

Fenns of *Lincolns-shore*) But above all, if the Bottom be a Gravel, this low Scituation is a very good one; and tho' the Owner may want Prospect, he can want nothing else, that the Nature of his happy Scituation can furnish him with.

And it is to be observ'd, that our Forefathers chiefly fixt themselves in these humble Scituations, in Consideration, (as may be in all Probability guess'd at) of their being low, snug and warm, and for their Aptitude to produce Fish and Hortensial Food in greater Abundance than Hills: Considerations indeed of a careful effeminate Nature, and such to which the Ease, Luxury and Superstition of those Times led them, yet even now they are to be preferr'd to some Places that lie high, and as they seldom are without natural Hills adjoyning to them, so 'tis no hard Matter to throw up Mounts in several Parts of an Estate, and to plant them with rough Greens, *&c.* in Order to remedy this Defect in Nature.

I do not by this intend to strike at the Beauty of high Scituations, wherever there is good Wood or good Soil to raise it; but this is in Answer to those that would limit Builders and Gardiners to such exact Scituations as will be perhaps impossible for them to find.

A high Scituation has indeed one Consideration to recommend it, as is like to overballance a Thousand Advantages in other Scituations,

tuations, I mean its Height, and by Conſequences the Nobleneſs of the View, and the Clearneſs of the Air.

Conſiderations of a lively Nature.

Thoſe Places being ſuch as will clear and relax the Paſſages of the Head and Breaſt, and ſuch from which we view the beautiful Scenes of Nature, and like the great Philoſopher from his Eminence in Philoſophy, (tho' not with the ſame kind of Satisfaction) ſee the buſie World acting their ſeveral Parts of their Labour and Toil below, fills the Mind with immenſe Idea's, and makes the World below us as our own.

An Abbreviary of Choice for a Scituation.

But ſince a very low Scituation is not always to be choſe, and a very high one is not always in the Option of thoſe Gentlemen that build or plant, midling Scituations are the moſt common, which as they differ almoſt as much as the Faces and Phyſiognomies of Mankind: I ſhall paſs them all over, and proceed to ſuch things, as ought above all to determine our Choice in this Affair, which is Wood, Water, and a proper Soil, after I have intimated, how unreaſonable it would be to place a Houſe and Gardens, either upon the very Sumit of a Hill, or in the very Bottom

tom of a Dale, when one meets with a very eaſy ſlooping Deſcent from North to South; 'tis reaſonable, that there the Houſe ſhould be placed, about three Parts in Four toward the Top of the Hill, by which means 'tis preſerv'd from the violence and impetuoſity of Northern Winds, and open to as chearful Embraces of the South. Yet as inconſiſtent as this is with common Reaſon, 'tis what has been, and is in many Places the common Practice; in like manner, it would be as improper ſo to order the Matter, that our Gardens of Pleaſure ſhould lie North, or North Weſt, or North Eaſt; the moſt beautiful as well as the moſt healthy Poſition being the South, South Eaſt or thereabouts, for as the North Subjects the Owner to rigid intemperate Breezes, ſo does the Weſt to the violent Concuſſions of Wind from the Weſtern Ocean, as well as the unhealthy Intenſeneſs of a declining Sun in the Afternoon, which makes it equally to be avoided, where-ever it poſſibly can, at leaſt the Builder ſhould take Care, that his Bed-chambers and Studies are not in that Poſition, but rather his Galleries and Rooms of a more publick Uſe.

The Eſſential Choice of a Scituation.

I have been the ſhorter on the more uncertain Rules for the Choice of the Scituation of a Country Houſe, that I might have Room

Room to enlarge on what I take to be the very Eſſential Parts of every Purchaſers Choice in a Country Seat, in Reſpect to Wood, Water, and a proper Soil.

CHAP. III.

SECTION III.

Of the proper Choice of Soils, &c. for a Country Seat.

ONE of the firſt and Principal Choices, every Purchaſer, Builder and Gardener ought to make, is that of a good Soil: The beſt of which are a ſandy Loame, and commonly lies in middling Fields or Up-lands; or the next a fine Paſture Black Mold, and both of theſe when they are freſh; or as the ingenuous Mr. *Lawrence* terms them, untryed Molds are of excellent Uſe, both for Timber, Fruit, Flowers, and Herbidge: It is of great Conſequence likewiſe, what lies next, or is at the Bottom of this upper Surface, which if one could chuſe, ſhould be One and a Half or Two Foot deep: The beſt of our Bottoms then I eſteem to be Gravel, Chalk or Shelly Rock mix'd with Earth, which always abounds with

with a nitrous Improvement, that Trees delight in very much, for that the other Bottoms of a barren Sand or Clay are both pernicious, the one carrying off the Nourishment from the Roots too fast, and the other retaining it too long; the Bottoms of Gravel, *&c.* above-mention'd are so very advantagious to Fruit, that when there is a proportionable Depth of Earth, I scarce ever knew it miss, and the Fruit to be much sweeter and better, than upon loose unlimited Bottoms, this will be hinted more at in other Places; and as for chalky Bottoms, I have seen so many Instances of the Sweetness of the Fruit, that grows thereon in the West Country, contrary to my Observation in that particular in other Places, that I certainly conclude, that it is that that makes the Essential Difference in the Taste of Fruit in the South and North more than the Sun; which a florid Author has laid so much Stress on, and an ingenious Gentleman, and a curious Observer of Fruit assur'd one, that the Grapes in those Parts are as sweet as any he ever tasted in *France*.

Of no less Account are these Bottoms to all other Herbidge and Trees, as being the sweetest as well as the dryest Pastures in the World, the one draining, and the other drying up all Superfluity of Moisture: What has been said of Loame and Pasture Earth, simply consider'd, may be apply'd to Loame

and Sandy Gravel, or Pasture Mold and Sandy Gravel mix'd together; both of them being excellent in their Kinds, as they keep the Earths they lie in from binding, by which means the Roots of Trees meet with less Obstruction, and in which indeed they take particular Delight.

But as the Choice of good Earths is not always in the Purchasers Power, but he is sometimes forc'd to content himself with those Kinds that are in themselves indifferent: It seems requisite, we should give a general Narration of all Sorts of Earth, as well those that are barren, as those that are indifferently good; that he may chuse the one and refuse the other, unless they can be amended at a reasonable Expence. Grounds are then simple or compound: Simple are Clays, Sands, or Gravels, compound where these Earths are mixed, or all Mixtures of Earth; Clay, Sand or Gravel may be all good, and very fit to plant all manner of Trees in; and likewise may be very evil and barren; for all Earth simple or compound doth participate with the Clime wherein it lieth, as hot or cold, moist or dry, and where the Ground or Earth participates of all the Elements equally, there it is the more fruitful: All Grounds may be known by their several Characters, as by the Clime or Scituation of the Continent. Some Grounds naturally produce Weeds, as Mallows, Nettles, Docks, Hemlocks, or such like,

like, which generally grow in every good and fruitful Ground: There is another Sort of Ground that has a different Face or Character, such as beareth Dazies, Clover, Charnock, Mustard Seed, *&c.* This also may be very good Ground to plant in, but this is ever to be observed, where Weeds or Grass do naturally grow strong or big, that Earth is undoubtedly most rich and fruitful; but altho' both these Grounds may be good for Corn or Grass, yet the Planter may be deceiv'd by those outward Faces and Characters, if he search not deeper into the Bowels of the Earth; for it is well known, that many a Tree of huge Bulk is, and hath been seen to grow in a barren Earth, for Corn or Grass; and on the contrary, there are, and has been several small Trees of little Worth growing in strong Grounds, as to the outward Appearance, and those small Trees of the Age or older than the other of greater Bulk; for that the Ground may be good for Corn and Grass, or the planting of some small Trees, which has but 6 or 7 Inches deep of Earth, which is not for large Trees that run deeper, by Reason of some malignant Veins and Strata of Earth, that the Roots of great Trees are oft to strike thro'. Another Character of barren Earth, is, when instead of Grass which would be green, rank, and thick, a pale, thin, small Grass, something blewish, also much Moss, or when the Ground is cover'd

with Heath, Furz, or Whin Bushes, Gorse or such like; these are apparent Signs of great Barrenness, especially if the Weeds or Rubbish be small; for, as is before mention'd, whatever it be that cumbers the Ground, the greater and ranker it is, it argues the richer Mold: Thirdly, there are other barren Grounds, which may be so adjudg'd by the Scite or Clime wherein they lie; as when the Ground is far remote from the Sun, or very near the Borders of the Sea; for the Storms and ill Vapours from thence poyson and starve the Earth, and are destructive to Trees and Plants; and I have lately seen near the Sea Coasts in the new Forest young Trees, that have lean'd their Heads away there from, as sensible of the Injury they should receive from those Sea Haws, particularly young Scotch Firrs, not above a Foot or two high, that were there rais'd from Seed in the Gardens of a very ingenious Gentleman, and a great Lover and Observer of these natural Enquiries; likewise when the Ground lies mountainous and high, and very stoney and rockey; these are Signs of Barrenness in many Places, yet the stoney Ground may have good Earth underneath, so that the Rock be not an entire Stone, but have Clefts and Passages into the Earth to plant the Trees and Seeds in; and being once planted and thriving, will in due time open a wider Passage, and produce a Timber Tree of as great Worth as other

Ground

Ground void of Stones; and this Observation tells us also, that Trees of small Strength in comparison of the Oak, being planted in or near a Stone Wall, the Roots have so increas'd and swell'd, making their own Way by Reason of a hard Rock some Depth under Ground, which the Roots could not enter; that they have lifted up the said Wall, and in a few Years thrown it quite down to the Ground: Fourthly, there is another Sign of the Barrenness of Ground, which is to be adjudg'd by its own Constitution; for it is well known to them, that are not ignorant of the Constitution of the World, that a Body is compos'd of all the Elements, Earth, Air, Fire and Water; and altho' all these Elements are simple Bodies of themselves, yet in all Bodies else are all the Elements, because Water evaporates into Air, and that Water is again made of Vapour, Rain teacheth us; and that Earth and Water also is rarified, may be prov'd by many Examples; and that Fire the Spirit infus'd working by Heat in all Bodies, is not to be denyed by this. You see that the Constitution of a Body participates of the four Elements, which is to say, Qualities hot, cold, moist and dry; but, to come nearer our main Point, the Constitution of that Ground, where one of the four Elements doth most predominate, is an apparent Sign of Barrenness, as when the Grounds are either extreamly cold and moist, or hot and dry:

Now these cold Grounds are generally Clays, except such as are Subject to Inundations of Water or Land Springs, which are all cold, and may be unfruitful, (unless remedied by draining, the Cost of which is sometimes more than the Profit) and these cold and barren Clays, as by the outward Face and Character Judgment may be given, generally produce Broom, Gorse, Moss, and Shrub-Brushes, or such like; and the Reason of their Unfruitfulness is from their tough Nature and Bindingness in the Winter, the Pores are so closed, that the Rain or Snow falling and melting, cannot soak into the Earth farther or deeper, than the Pores of Earth are open'd by the Roots of Trees and Plants, or Corn and Grass, wherefore lying at the Roots it doth benumn and chill them, and hinder their Growth, and indanger the Stock thro' its over Moistness, by this it is that Nature is render'd sluggish and unactive, or, which is plainer, by the Super-abundance of Moisture it is, that Heat, *&c.* can't act their Parts, and that thereby these co-efficient Powers of Nature are stop'd in their Joynt Operation. Secondly, these barren Earths will require much more Dung than better Earths, and yet not last half the Time; for by Reason of the Bindingness of the Clay, the Soil cannot incorporate with it, so that both Corn and Weeds will soon draw and spend the Substance thereof, and that which remaineth

good

good above will exhale; or if the Ground lie ſteep, then the Rain will waſh it away. Thirdly, if the Spring or Summer be very hot or dry, the natural Toughneſs of the Clay doth ſo fetter and lock the Roots or Grain within the Mold, that it will not give them Liberty to ſprout, or if it doth, yet the Cold after much Rain will preſently ſtarve the Root, by rotting thoſe emulgent Fibres that fetch in Nouriſhment thereto, and makes the Stem utterly unable to bring forth profitable Fruit; next to Clay are marle and chalky Grounds, they being deriv'd of Clays and Sands, Chalk being only (as ſome define it) a kind of white Marle, it being; as they affirm, Marle, before it was Chalk, and both of them Earth or Clay at firſt, only became hardned and colour'd by courſe of Time, as Stones are co-agulated by Water and Fire, which we may well obſerve in Bricks and Earthen Pots: For here Art imitates Nature; as alſo that they are Subject to Calcination, as Lyme-ſtones, Flints, or the like are; but becauſe Marle has its Original from Clay, I ſhall leave it to be adjudg'd by Appearance as the Clay Ground is; excepting, that there you will find no Broom or Gorſe, or ſuch like Weeds, for Marle is a great Enemy to ſuch like Incumbrances.

As the Barrenneſs of Clayey Grounds are known by their outward Faces and Characters, ſo alſo are Sands; and theſe are of as many Colours as the Clay: Thoſe Sands that lie upon Mountainous and Rocky Places, are generally ſpeaking barren, which may be perceiv'd by the ſmall moſſie and yellowiſh Graſs which they bear; other Sands that lie lower in wet mooriſh Plains or Bottoms, are generally of a blackiſh Colour, and produce a long, ſour, unwholeſome Graſs; but where the Ground lieth dryer, the Earth or Sand will be very white or yellow, and produce a ſhort, ſmall, blewiſh, moſſy Graſs: The greateſt Part of theſe unfruitful Sands are much Subject to Heath, Furze, Brakes or ſuch like.

Now a great Cauſe of the Unfruitfulneſs of theſe barren ſandy Grounds, is by Reaſon of the Poroſity, or Hollowneſs of the Earth, as was ſaid before; for, altho' it be well manured with Soil or Dung, yet much Rain will waſh down the Dung lower into the Earth, than the Roots of the Corn or Graſs, which has been the Reaſon of the Way of Plow trenching in ſome ſandy Countries: The Manner of which I ſhall here mention, becauſe it does as properly belong to this Place as any. Firſt, the Plow having caſt up the Furrow, taking a good Slitch, (as they call it in Husbandry) after the Plow there follow 12 or 14 Men with Spades, who dig a Spit

a Spit deep in the bottom of the Furrow where the Plow hath gone, which they caſt or lay upon the Ridge of Earth, which the Plow firſt threw up; then follows the next Turn of the Plow, but that which then caſt up is thrown into the Trench, the Men left to fill it again: Then the Men, as before, ſtill follow the Plow, and dig or caſt out of this Second Furrow another Spade's Depth of Sand or Earth, which they caſt, or the Second Ridge of Sand or Earth the Plow has caſt up; and ſo on to the Third, Fourth, or Fifth Ridge; the Delvers following the Plow, and the Plow them, during the whole Day's Work; by which you may perceive, that the upper Earth or Sand, or as we call it, the Turff-ſpit is buried, and the undermoſt or freſh Sand laid uppermoſt; and this is the Rule we may follow in any thing relating to Gardening or Planting, tho' there is no Occaſion of ſo much Trouble in Relation to Corn Land; but in this we ought by no means to go too deep, becauſe (notwithſtanding what has been here mention'd) the deeper you go, the poorer your Sand or Earth is; and I have ſeen Trenching 2 or 3 Spit has brought up ſo barren, that for ſome Years new planted Trees would not thrive therein, But, to go on with our Narration of Soils, 'ts evident, that as much Rain and Wet is the Cauſe of Unfruitfulneſs in hollow, hungry Sands; ſo likewiſe is Drought; for

the

the Earth being looſe and hollow, the Sun by its Heat doth draw up the Moiſture and Richneſs of the Earth and Soil, which the Rain does leave, by which means theſe kind of Earths are doubly robb'd of their vital Juices.

A Third Sort of Ground being barren and unfruitful is the Gravel which is mix'd with it, a hungry Earth reſembling (or as it indeed properly is) a gritty, looſe Sand: This Ground, if it lie high and mountainous, then the outward Face and Character will appear as it did in the poor Sand Clay, one Cauſe of its Barrenneſs is from Cold, the Gravel wanting good Earth to warm and nouriſh that which ſhould grow in it; alſo becauſe in Time of Drought, the Sun will ſcorch and burn up that which ſhould grow thereon: And if this Graveley Ground lie low, then it is Subject to Land Springs, it naturally drawing the ſuperfluous Moiſture of all adjacent Lands; and this waſhes away all the Subſtance of the Soil, (which in its own is in Truth but little) alſo much Rain does likewiſe waſh away the Fatneſs of the Earth, (inſtead of improving it) by Reaſon of the Roundneſs and Looſeneſs of the Stones; ſo that what with the Waters within the Ground, and the Waters above the Ground, alſo the Heat and Scorching of the Sun, which doth dry up more eaſily its Moiſture, this kind of Earth muſt of Neceſſity be unfruitful, neither

ther is there any way to improve it, but by gathering up the Stones, laying good Earth and Soil in the Room, and by making Drains to carry away the Water. I ſhall not adviſe any to buy or fix upon any Piece of Land on ſuch an expenſive Proſpect; nor to begin this piece of Husbandry, (unleſs there are Abundance of Conveniencies to ballance it) becauſe the Charges will amount to ſo very much, and better Land, may, without doubt, be purchaſed at eaſier and leſs troubleſome Rates.

Nor, as by the outward Face and Character, and by the Clime and Conſtitution of all ſimple Grounds doth appear the Richneſs and Fruitfulneſs of one, and the Barrenneſs of the other; ſo likewiſe by the ſame Rule, there may be Judgment given of all compounded Grounds or mixed Earths, as Sand with Gravel, or Clay, or Loame with Gravel, or Sand, or other Earths; but narrow Enquiry into all theſe will more properly come in, when we come to ſpeak of Lands in particular, and their Improvements; and thus much may ſuffice in general, to paint out the extreme Badneſs and Indifference of Soils in Relation to the choice, every Gentleman makes of an Eſtate or *Villa*, ſo far as it relates to Graſs, Corn, and ſuperficial Vegetables, and by this that has been ſpoken concerning the Nature of Grounds ſimple and compound, the Husbandmen may have

have true Knowledge to order and dreſs his Ground, and, by purging and cleanſing the ſame from thoſe Faults that hinder their Encreaſe, may expect the better Crop, if he is by any means obliged to make uſe of it.

But yet the honeſt Wood-man and Planter may be at a Loſs in the planting and raiſing of Timber, if his Enquiry be no deeper than the outward Face of the Earth; for altho' every Ditcher can ſpeak by Experience in the making a Ditch, that the Cruſt or good Earth many times doth lie but two or three Inches deep, and the next Earth proves a hard, hungry Gravel, about a Spade's Depth more; the next Spades Depth under the Gravel is perhaps a cold, barren Clay, and under that ſometimes there may be, tho' but rare, a good Loame, or Sand, tho' this laſt is ſo intercepted by the other Strata of bad Earth, that 'tis of little Uſe: However, this ought to induce all Gardeners and Planters as well as Purchaſers, and Chuſers of Scituations and Soils, not to be content with a ſuperficial View of their Lands, but to examine them in ſeveral Places with a Spade; and this ought the rather to be done, becauſe I dare affirm, *that there is no Superficies of Earth, how poor ſoever it may be, but has in its own Bowels ſomething or other for it's own Improvement.* An Inſtance of this Kind I have ſeen of a Perſon that digged a Saw-pit, and ſpreading the Stuff that came

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out about that Corner of his Ground, he found great Improvement thereby, which induc'd him to dig Pits on purpose, wherewith he several times manured that Piece of Ground. So wisely has Providence order'd the Events of Nature in this, as well as other Matters; and 'tis owing to our own Sluggishness or Want of Thought, that we make no better use of these Benefits, but this I shall more fully make out in its proper Place, and continue to affirm also, and pertinent to this, that there are as many Sorts of good and bad Earths under Ground, as there are above; but, to proceed, there are other Grounds that have no Crust or good Earth above at all, but either a barren Sand, hungry Gravel, or cold Clay, and such like, and yet within 12 Inches deep you shall find a very good natur'd Earth; and that there are several Veins of good and bad Earth of all Qualities, those that dig in Mines and Wells can averr; also that there are several Veins of good and bad Earth upon the Ground, is obvious to the least curious Observer, and is what in particular Gardeners and Plowmen can testify. But there are several Sorts of Ground that may be good for Corn and Grass or small Fruit Trees, that are not good for the planting of Timber Trees. First, such Grounds that have a good Crust or Earth 12 or 14 Inches deep, and under this Earth a very cold, wet Gravel; this Earth

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is by no means good for Timber, for being full of Land Springs (which is Water running within the Earth, or is discover'd by breaking out or spewing up in many Places) This and the like I say are not good to plant or sow Timber Trees in, because after the Roots of the Trees have passed downwards deeper than the good Earth, the young and tender Shoots of Roots (being the Fibres) are by too much Moisture and cold Water within the Earth bechill'd and benumm'd, so that they have not Strength enough to entertain the Earth underneath the Water, or if they do, the Water, like a troublesome and unwelcome Guest, will be following after, and thereby hinders them in their Growth, and consequently ruins the Progress of the Tree; and tho' the Abeal, and some other one of the Aquatick Tribe, will do tolerably well in these Gravely Spewy Lands we have been speaking of, as well as in other dry hungry ones; yet it would be in vain to think of planting Oak, Ash, Beech, or even Elm, tho' an Aquatick, at any large Size; for these Bottoms are as bad as the strongest Clays, which are so very tenacious of Water and Rain, that we every Day see Trees pine away and die therein: For tho' there is in many Places Oak, *&c.* that do grow in these Kinds of Land, yet this we must attribute to Nature, that is to their being sow'd there, or to their springing up from the natural

Juices

Juices of the Earth, and this Way many Things are done, that we can by no means effect by Art; and this has led a great many Planters into Miſtakes, of which I have elſewhere ſpoke of.

Secondly, Such Grounds as have the ſame or as good Earth as before mention'd, but underneath an undivided Rock or Quarry of a large Extent, theſe I ſay are not proper for planting Timber Trees in (whatever they may be for ſowing) for after the Roots of the Trees have grown deeper into the Earth than the Cruſt or good Earth, as aforeſaid, and reach unto the Rock, they cannot enter, and being only maintain'd by the upper Roots that ſpread along the Surface (ſhallow as it is) can never grow to any Bulk, not having ſufficient Nouriſhment for all the Roots, and therefore neceſſarily want ſo much of their due Growth; and altho' ſuch Trees may thrive 50 or 60 Years, yet, as they grow in height and greatneſs, ſo much the more are they in Danger of every Wind; becauſe thoſe Roots that ſhould grow deep into the Earth, not only to ſupport the Tree by Nouriſhment and ballance it by Weight, but as ſtrong Cords to bind it faſt unto the Earth, are altogether hindred and diſappointed of their Uſe by Reaſon of the Rock and Quarry they grow upon: Alſo thoſe Roots that touch the Rock, for want of Entrance will, in a ſhort time,

time, perish and decay, and not only to the hindrance of the Growth, but to the shortning the Life of the Tree it self. The best Tree that will grow on these kind of Places is Ash, by Reason it is a Tree that naturally runs shallow, but even they are generally Pollards, such as will not advance to any degree of height.

This Stoppage and Decay of the Roots may be discern'd several ways. First, The middle Bough, that generally grows streight and upright, and proceeds from the Heart, will die and decay at the top, which may be known by the Paleness and the falling of the Leaf sooner than ordinary: Secondly, the Bark will grow black: Thirdly, The Sap, which is as the Blood, having not its natural Course, by Reason of the Stoppage of the Root, will break out into Boyles, which are great Bunches in the Bark, Body and Limbs of the Tree, and in time cause it to be hollow. Now since it concerns every one, that will be at the Charge of Planting, what Soil he plants in, he ought to search into the Bowels of the Earth at least 3 or 4 Foot deep, either by an Auger or by a Spade, which last is the best way because then, if the Hole be 3 or 4 Foot wide, you may view the several Beds and Strata as they lie involv'd one upon another, and may the better make Judgment of the Soil you are to plant upon, always

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that are proper for a Superficial Herbage, remembring that there be many Grounds, that are not so for deep planting, for there is a vast Difference in planting and sowing of Corn, and planting and sowing of Trees; for the Husbandman in a Years Time, after his Seed is sown, may know the Nature of his Ground, and amend the Evils thereof, or forbear farther Charges, and let it rest for the feeding of Cattle: Whereas the Planter must wait many Years in Expectation to know the Goodness of his Ground, and only guess at last, without any Certainty, only by the Growth or thriving of the Trees planted, which Event is commonly too late for the present Possessor to amend, and leaves him under the unhappy Reflection of laying out his Mony to no manner of purpose.

Having taken a brief Survey of unfruitful Grounds, by Reason of the Constitution and Clime, or Scituation of the Countries wherein they lie; it will be needless to speak of those rich and fruitful Clays in *Buckingham* and *Leicestershire*, &c. of those fruitful Sands in *Surry*, *Middlesex*, and *Suffolk*; also those rich and fruitful Gravels, and compounded and mix'd Earths in *Barkshire* and *Hartfordshire*, with many other Shires, *by their Productions you shall know them*: All these good Soils, if there be no Hindrance in the Bowels of the Earth formerly spoke of, will require no other Charges than only the Choice of

good Plants and good Seed, be it in their respective Considerations for the use either of the Husbandman, or the Gardener and Planter; as for poor unfruitful Grounds, having but a thin Crust, yet good Earth at the Depth of 18 or 20 Inches, the Seed or Plants that are to be planted in such Grounds are to be nourish'd and maintain'd, until their Roots descend and reach unto that good Earth; therefore, not only choice Plants are to be provided, but also good Earth to set or plant therein, those Plants, Trees or Seeds, but of this you will hereafter have more ample Directions.

To sum up all, there are few of those Lands formerly mention'd, but may be made tolerably good for planting Timber Trees in; and fewer yet but may be good for Corn and Grass except these following. First, All Lands that be near the skirts of the Sea, for the Mists, Foggs, and Winds that come thence, much endanger them and hinder their thriving. Secondly, All high and dry Mountains, for they do not only want Moistness of Earth, but are infected by great Winds which frequently blow in those Places, and are very hurtful; and although there are, and have been seen Trees growing on high Hills, yet it is my Opinion they were not planted there by Man, but were the Production of the Earth, and an Effect of the first Creation. Thirdly, All Lands that lye flat, and are Subject to Inundations of

of Waters, for want of a Descent or Current to carry them off some way or other; for altho' moist Earth is good for Trees, yet too much Moisture, as Water lying long on the Ground, or at the Roots of Trees is dangerous if not mortal, as is before intimated. Fourthly, All mooriſh Grounds; for although there are, and has been many great Trees growing in such Grounds, yet very seldom found any well colour'd or long liv'd Timber Trees: And how bad they are for Fruits common Experience tells. Fifthly, All entire and chalky Grounds; for such Grounds are cold and dry, and not good for Trees, except there be good Depth of Earth upon it, or a Mixture of other Earth, with that or any other such like Ground that draws the Roots down thro' the Clifts and Crevices thereof. Sixthly, All Grounds that are rocky or very stony, either under or above the Earth; for altho' Trees may thrive in such Grounds, yet it will require much Labour and Pains: And I am very dubious of any long thriving of such Trees, where thus have extending their due Bounds, and are got into the naturally bad Soil.

It is indeed a great Satisfaction and Surprize to see all those numerous Plantations, that are at *Blenheim*, and other Places of Mrs. *London*, and *Wise*'s carrying on; tho' they are there as well as elsewhere, very near a rocky, shelly, or else clayey Bottom; but there has been that Care and Expence in remedying the Defects of

Nature, that is not perhaps in the Power of any private Purſe to perform; whoever would then chuſe a Soil for himſelf, ſhould be particularly careful in this Point: 1000 l. being ſoon expended to remedy any Defect in this Matter.

I have now finiſht what I thought fit to premiſe for the Choice of Soils in general, as it relates to the Inſtructions of thoſe that are to purchaſe *Villa*'s for planting, *&c.* The particular Nature of Earths with all its Improvements will more properly come in ſome of the ſucceeding Periods: The next Conſideration is concerning Wood, the Beauty of which is ſo well known, and ſo generally acknowledged by all, who have the leaſt Taſte of Country Amuſements, that there ſeems to be no Occaſion for me to enlarge upon it, eſpecially in *England*, where 'tis our Ornament and Safeguard at home, but our Puiſſance and Glory abroad: 'Tis in very many Reſpects the truly *Decus* and *Tutamen* of theſe happy Iſlands, the Loſs and Neglect of propagating, of which may in Time end in the fatal and unhappy Diſſolution of the nobleſt Kingdoms in the World.

Of this we have ſeveral kinds that excel each other in the Object of their Choice: The Principal whereof, is the Oak, Elm, and Beach: Of an inferior Account, Aſh, Cheſnut, Sycamore, and Maple; and for Beauty and Ornament, the Lyme, Yew, Holley, *&c.* thoſe Woods are ſo much the more beautiful

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as they are plac'd, or not plac'd on Eminences ſloping Hills with Vallies between them, as they are naturally and promiſcuouſly ſcatter'd and diſpers'd over a whole Eſtate; and it ſeems to be a great Miſtake of thoſe that eſteem nothing to be beautiful, but what is regularly planted and diſtributed out, as are many of Avenues leading to great Houſes: Since the Beauty of this Regularity is eaſily ſeen at once, and then the Mind is by Nature ſoon cloy'd of it, but in the other, how pleaſingly does it rove uncontroul'd thro' the promiſcuous Scenes of a Country. There are others ſeem to miſtake, in thinking none more beautiful, than that that is plac'd thick and cloſe together, as are our common Coppices, but I ſhould rather adviſe it to be (as already hinted) mix'd with Lawns, Vallies, and riſing Hills, that ſhould be always preſenting themſelves to the Riſe of the Beholder, with open Glades, Corn Fields, and Paſture Lands; in this Place a Hillock of Oaks for Shade; in that a hollow and natural Lawn with a Cave or Grott; in one, if poſſible, a winding Valley between Two riſing or ſloping Hills of Wood: Here purling Streams; and in another place, Water rowling down not over poliſh'd Maſonry, but over the rougheſt Froſt-work and rugged Stone, cover'd with Moſs and other lapidary Excreſcencies and Herbs; theſe agreeable Conveniencies with a little Improvement will without doubt anſwer the de-

ſign and employ the thoughts of the moſt curious Deſigner.

But however, beautiful Wood and theſe other Embelliſhments of Nature are, unleſs it meets with a skilful hand in the Management, 'tis commonly ſpoil'd; this I have already ſpoke to, and ſo at preſent contenting my ſelf to caution, that if the Wood is already grown and the Houſe to be built, that great Care be taken in the placing; for that there are Caſes, when Wood however beautiful ſoever in it ſelf may be in a wrong Place, and therefore ought to be cut away or the Houſe ſo plac'd, that it may be deprived of ſome diſtant View; ſuch is the Caſe when you have blue Hills, a fine Valley, or ſome noble Lawn, Tower or riſing Hills, cloth'd with Wood at a large Diſtance: Theſe are Beauties ſo noble, that even grown Wood ought to be cut down to admit an open View to it. And yet ſo inconſiderate are many Deſigners in this Matter, that, in order make out one of their fine Draughts, 'tis very often ſeen that the Wood or Wilderneſs is clapt juſt in the way; and our diſtant unlimited Proſpect ſpoil'd; the Sum of this is, that all Deſigners ought to have a particular Regard how Wood is plac'd, that it be not too near the Houſe, and that it does in no wiſe Obſtruct a diſtinct Veiw. What is ſaid of Wood already grown, will direct the management of Wood to be hereafter ſown or planted, with this difference, that the Fault

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of doing Wrong will be then the more inexcuſable, becauſe the Deſigner has liberty and time to diſtinguiſh, how and where to place Wood with Diſcretion; if towards a barren Country or ill Proſpect, then Wood at the Extremity of the owners own Eſtate to blind it; if the diſtant Proſpect be good for the oppoſite Reaſon of the other, cut it quite down or be ſure to plant no new Wood at all next ſome kind of Water.

The Beauty and Convenience of which is ſo great, that a Perſon can't be ſaid to have made good Choice of a Country Seat, unleſs he has taken particular Notice of this; he is then firſt to find out the Spring-head, to take (as ſhall be hereafter directed) its Fall to the Houſe, he is to examine what quantity it will afford in its dryeſt Seaſon, he is to find out as large a Head as he can to penn up a Reſerve in Caſe of dry Weather; and laſt of all he is to ſee, if a proper way can be found to carry off all Superfluities; and if no Spring is to be found, how he may collect Rain and Flood Water together into large Ponds; or how he may by Engines force Water up to the Top of the Levels both for Uſe and Beauty. What are the Prizes of Engines, Conveyances, Drains, Pipes, and other Appurtenances, is taught more at large in the Chapter of Water-works. If all theſe come within the Compaſs of a reaſonable Expence, they will, 'tis hop'd, anſwer

the Pains and Care he has been at in this Choice.

The Summary of all that has been ſaid as to Scituations.

The Sum of what has been offer'd, relating to the happy Choice of Scituations, ſeems to be this, that it be a midling one, as we are here ſuppoſing 'tis, and upon a gentle Plain declining towards the South; one Inch in ten Foot is what we reckon a very proper Fall, but if it is much improv'd by Slopes and Terrace Walks as has already been directed, then you diſpenſe with three or four Foot, in ten Foot Fall, or more. Again, it conſiſts of a good Corn Land, red Soil, or a black Paſture Land, and principally of a firm gravelly Bottom; the Conveniencies of which being already touch'd upon in the beginning of this Chapter, I ſhall now enlarge upon.

And firſt, in Reſpect of that Benefit, it is to all ſorts of Trees, as it keeps their Roots from running Deep, and contracting thoſe Diſeaſes, eſpecially Barrenneſs, that commonly attend them under that Misfortune, to illuſtrate this by a few ſpeculative Arguments: If the Sun be allow'd (as Philoſophers by Alluſion call it) to be the Father, and the Earth the Mother of Vegetation, 'tis not hard to conceive how thoſe Roots of Trees, that are deſcended deep into the Earth, ſhould be entirely deſtitute of

proper

proper Nutriment, for tho' there are in every particular.

Stratum or Bed of the Earth Juices, which thoſe Roots avaritiouſly imbibe, yet by their Diſtance, from the Sun they muſt of conſequence be groſs and undigeſted, and not in any Degree rarify'd for ſuch Productoin as Nature has aſſign'd to all ſorts of Trees, eſpecially the Fruit bearing kind; for, tho' Foreſt Trees will proſper tolerably well in free, clear Soil, notwithſtanding they are planted or run deep down into the Earth, yet Fruit Trees will not, being of much tenderer, and the Juices that conſtitute ſuch Fruit ought to be of a much more refined Nature.

This gravelly Bottom is of no leſs Uſe in relation to the Beauty of Turff and Carpet Walks, if it lie not ſo near as to burn it up; for tho' it keeps the Roots of Trees from running deep into the Ground, it nevertheleſs receives all ſuperfluous Moiſture that would otherwiſe ſtagnate and rot the emulgent Fibres and Roots of Trees (which is too often the Caſe in clayey Grounds) and not only that, but is of great Inconvenience to the Owner in his Walks, from place to place, where without great Expence in Drains he goes through the moſt uncomfortable Difficulty that attends a Country Seat, eſpecially in the Winter, ſo great indeed that if he had all the other advantages of Choice in this Matter, and this one ſhould be wanting, 'tis ſuch a Want as would

would marr all the Pleasure of a Seat. But, in commendation of Gravel, if to it be added the Ease by which we procure it for making of Walks in our Gardens and *Villa's*, 'tis of the greatest Importance. Since the chief Pleasure of a Country Seat is either early in the Morning, or late in the Evening; at such times as Dews very much incommode one's Passage from one Garden Field or Closure to another; what Felicity or Convenience can any Person propose to himself in the walking over and viewing the Beauty of a *Villa*, at the most pleasant Time and Season of the Year and Day, if he has not Gravel to make some dry Walks that communicate one with another, and convey him from place to place through it; there is then no one that makes any Choice of an Estate, but would upon all occasions have a great Regard to this.

To finish, then, what can be said as to Situations, they ought not to be too near any fenny, boggy, or morassy Land, or standing Lakes, or even very slow pac'd Rivers; for that the Foggs and Vapours will very much incommode and annoy the habitating there, and if near the Building, should be rather plac'd on the North and North East, than on the South Side thereof, since the Sun draws all the Vapours thereof to its self; and therefore on the South and South East, which draw up the Morning Fogg, those Scituations must be very unwholesome in such Low-Grounds, the

the Fruit likewiſe watry and ſquaſhy, and is by no means ſo good as Up-Land. The Wood round it ſhould likewiſe not be ſo thick as in common Coppices; for that creates Damps, and, as I can't recommend a very low Situation, ſo a very naked and high one, in my humble Opinion, is as much to be rejected, where the Dweller is continually expos'd to the Terror and Noiſe of ruffling Winds; what I have already urg'd in relation to the Bottom, which ought to be choſe for the ſake of Fruits and Convenience of Paſſage will I hope be ſufficient.

To conclude, then the Conveniency of a Situation, it ought likewiſe to be in a Country well inhabited, within a reaſonable Diſtance of a Country Town and a navigable River, if poſſible, and free from troubleſome and contentious Neighbours, and High-ways, that croſs any of the beſt Part of the *Villa* or *Farm*; that it be in a Country well ſtor'd with Wood, or, which is better, Coal, ſince 'tis impoſſible to expreſs the Havock that great Families make in a ſmall wooded Eſtate, in a little time: This ſeems to be the beſt choice a judicious Man can make for his Habitation; in this he may, if not wanting to himſelf, may reap all the Felicity this Life can afford, and by a virtuous and careful Life become fit for an ever happy Place, where this only can be exceeded, and of which this is a proper Type and Emblematical Repreſentation.

CHAP.

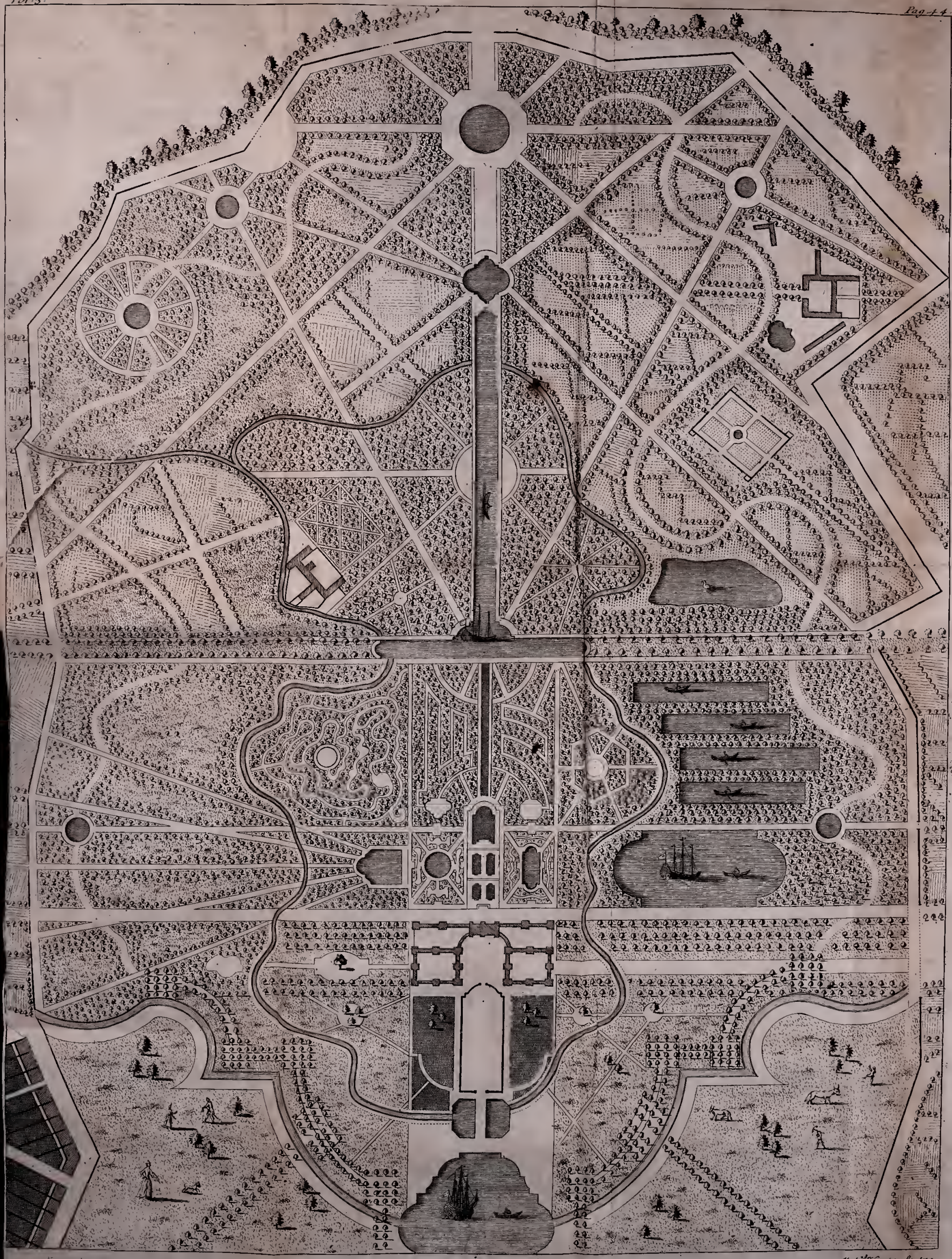
CHAP. IV.

SECTION IV.

INTRODUCTION OF *Rural and Extenſive Gardening.*

THE foregoing Chapters being purely preliminary to this that follows; we come now to the main Deſign of this Book (*viz.*) the Delineation of Rural and Extenſive Gardens, of which having ſpoke conſiderably in the Introduction Part, and in ſome of the foregoing Chapters of this Volume, there ſeems little Occaſion to enlarge, much leſs to repeat what is there ſaid in its Recommendation, the propereſt Method (after a ſhort Recapitulation) to illuſtrate it, is by a Reference to thoſe few Plates that follow.

The



M. Ier Gueche Sculp:



The Chief of our Deſign in this Book, being the Decoration and Embelliſhment of a whole Eſtate, or at leaſt, that Part of it that lies moſt contiguous to the Manſion Houſe, inſtead of ſuch vaſt and expenſive Gardens, that the Folly of this and the paſt Ages hath run into, whereby that moſt innocent and harmleſs Employ, is become a Burthen too great for the biggeſt Eſtate, and the Gardens themſelves not at all anſwerable to the needleſs Expence that is laid out upon them.

For, ſuppoſing a Perſon ſhould be poſſeſs'd of a Garden, thirty, forty, fifty, nay, as it is ſometimes ſeen, of a hundred Acres of Ground; the Beauty is ſoon diſcover'd, and at the ſame time that that is, the Love of it too often vaniſhes, and when we come to add the Expence thereto, we ſoon find it a lothſome Burden, or the Owner whilſt perhaps at the ſame time his Eſtate that lies contiguous to him, is as much neglected, when by ſpreadin Money more lightly at home, it might in a great meaſure be dreſs'd and improv'd, and be made altogether as beautiful as the moſt elaborate Garden; beſides, the affording him a continual Profit and Employ.

To confirm this Suppoſition; if his Grounds were handſomly divided by Avenues and Hedges; and if the little Walks and Paths that ought to run through and betwixt them, were made either of Gravel or Sand; and if there were Trees for Shades with little Walks and purling

purling Streams, mix'd and incorporated one with another, what cou'd be more diverting? And why, is not a level eaſy Walk of Gravel or Sand ſhaded over with Trees, and running thro' a Corn Field or Paſture Ground, as pleaſing as the largeſt Walk in the moſt magnificent Garden one can think of? And why, are not little Gardens and Baſons of Water as uſeful and ſurprizing (and indeed why not more ſo) at ſome conſiderable Diſtance from the Manſion Houſe, as they are near it? Beſides as theſe Hedge Rows, little natural Coppices, large Woods, Corn Fields, *&c.* mix'd one amongſt another, are as delightful as the fineſt Garden; ſo they are much cheaper made, and ſtill cheaper kept. And more than all, the careleſs and looſe Treſſes of Nature, that are eaſily mov'd by the leaſt Breath of Wind, offer more to the Imagination than the moſt delicate Pyramid, or any of the longeſt and moſt elaborately clip'd Eſpalier, that it is poſſible to make; for, altho' we don't by this abſolutely reject, in ſome few proper Places ſomething of that kind, yet why ſhould that be thought ſuch a Beauty, as to exclude things more Natural? And why ſhould not a judicious Mixture and Incorporation, of one with the other quite thro' a large Eſtate, be of more value, (*viz.*) as at or near the Houſe, a little more exactitude is required; ſo after that view is over one would ſometimes be paſſing thro' little Paddocks,

ducks and Corn Fields, ſometimes thro' wild Coppices, and Gardens, and ſometimes by purling Brooks and Streams, Places that are ſet off not by nice Art, but by luxury of Nature, a little guided in her Extravagancies by the Artiſts Hand, while ſometimes it may not be improper unexpectedly to fall into a little correct, and elaborate Garden; but, as thoſe ſhould not be too often ſo, they ought not to be too large.

Again, why ſhould we be at that great Expence of levelling of Hills, or filling up of Dales, when they are the Beauty of Nature? Why ſhould we eſteem nothing but large regular Walks, the only Characteriſticks of a noble Seat? But, for diverſity, ſhould not rather mix therewith Serpentine Meanders; and inſtead of levelling Hills or filling up Dales, ſhould think it more entertaining to be ſometimes on the Precipice of a Hill viewing all round and under us, and at other times in a Bottom, viewing thoſe goodly Hills and Theatres of Wood and Corn that are above us, and preſent themſelves every where to our View? And, if we have not ſuch by Nature, to create them by Art, by digging a Hole in one place, to make a Hill in another; and ſo to make the moſt level Country (which of all others is the leaſt beautiful) as delightful as any thing that Nature throws in our way or Art can create.

But, to paſs by theſe innumerable Conſiderations, that theſe rural Scenes affords us, and come to the Practice it ſelf, and to the further Proſecution of this Intent of rural Gardening, which is likewiſe recommended to us by its Profit, in Lawns and Paddocks, for grazing in Corn Fields and Kitchen Gardens, and in little Woods, Coppices, and Hedge Rows mix'd therewith, and abounding with Pheaſants and Partridges, with Hares, and all other uſeful Game, aud ſtock'd with Apples, Plums, Pears, and Filberts, and in ſhort, inſtead of an exact nice Garden, a whole Eſtate, be it either 50, 60, nay ſometimes of 100, or 200 Acres, ſtrow'd all over with the afore-mentioned Conveniencies, for Uſe, Beauty and Profit.

I know there is an Objection already rais'd againſt this way of dividing, planting, and ſowing, an Eſtate into ſmall diviſions; for ſome (and perhaps the Shepherd and Farmer will concurr with them) ſay, this way of planting, will ſhade our Ground, and make our Graſs ſour, and fit for our Cattle; to which I anſwer that I don't ſuppoſe theſe Grounds that lie contiguous to the Manſion Houſe to be for the Uſe of Sheep: And 'tis Sheep only they can pretend to bring in to ſupport this Objection; but even in this Caſe, in many places where the Ground is a ſandy Loame, or other ſweetly diſpos'd Lands, Sheep will feed as well, and are altogether as fat as

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in Encloſures of an Acre, nay half an Acre, as they are in the openeſt Fields of 20 or 30 Acres, as I have ſeen my ſelf in *Yorkſhire* in divided Lands that I have ſurveyed, ſome of which for their Shape and Smallneſs are call'd Shoulders of Mutton; notwithſtanding, the Irregularity of which Shape they plow and ſow them, as truly as any other regular Pieces whatſoever; which is an Anſwer to another Objection, that I foreſee will be ſtarted, (*viz.*) that this rural Way will (by its Serpentine Lines) cut all the Fields of an Eſtate into irregular Shapes and circular Turns, and, conſequently, ſpoil an Eſtate in Relation to Tillage.

It is very happy for me, that ſome of our Ruſtick Authors that have gone before me, have ſo ſtrenuouſly aſſerted the Advantage of encloſing an Eſtate, and dividing large Fields into ſeveral Diviſions, as that after this Diviſion it is known to let for more, if the Landlord were to let it; becauſe by theſe Diviſions, the Tennant has the Opportunity of feeding and breeding more and different Sorts of Cattle, than he otherwiſe could. But, which is of more Advantage yet, and which I would adviſe my Reader to take particular Notice of, that as theſe Trees and Hedge Rows keep the Ground warm in Winter, by which means the Graſs grows even in the middle thereof, in ſome Degree or other; ſo in all light Lands they won-

derfully hinder the Sun in Summer from eradicating the natural and genial Moiſture of the Earth, to which we may add the Defence they yield to Cattle, in the Extremity either of Heat or Cold. And now

The next Plate, that I ſhall preſent the Reader with, is the general Diſtribution of all thoſe Offices, Yards, Gardens, *&c.* that lie next to the Manſion Houſe, and, after that, ſome few extenſive Deſigns; in which, I hope, will plainly appear the Diſpoſition of all the other Parts of an Eſtate, and that harmonious Agreement, that there ought to be of one Part with another, and how the ſame may beſt be effected.

When, therefore, you have fix'd upon the Center of a Deſign, (*viz.*) the Place where the Houſe is to be, and have from thence taken the Survey of your Ground round, and the ſame is plotted on Paper; you are to begin to caſt it firſt on a Method on Paper, I mean, that Part that lies next the Houſe, which is intended to be divided into Court Yards, Parterres, *&c.*

A Deſign of this Kind is in the next Plate, and will ſerve in almoſt any Place, where there are 10 or 12 Acres of Level Ground on one Spot, which Quantity one can ſeldom fail of; and it muſt be alſo obſerv'd, that tho' this Deſign, by ſuppoſing the Front of the Building to be 200 Foot, will yet ſerve to a Building of 100 Foot, or 150 Foot, more

more or leſs, and the Deſigner may accordingly alter the Scale at his Pleaſure.

All that ought to be allow'd to, what may properly be call'd, Gardens, or other Court Yards, Buildings, and Offices of Convenience, ſhould not be above Five or Six Acres in middling Deſigns, nor above 20 in the greateſt. This Tract of Ground ought to be fenc'd, that Beaſts and Cattle do not come to trample the Ground, or break and crop any of the Trees that grow upon it, and, becauſe the Grounds adjoyning to ſuch Buildings, are for the moſt Part Lawns and Plats of Graſs, and other Materials, that will otherwiſe very much ſuffer by this Inconvenience; it will be abſolutely neceſſary to conſider, how to do this as ſoon as any thing; and this will opportunely fall in this next Plate, leaving the other exterior Parts of our more grand and extenſive Deſign to follow.

The ſeveral Particulars of this, *viz.* Court Yards, Terrace Walks, and Parterres, have already been treated of, and this muſt be taken as an Abſtract or *Summa Totalis* of what has been deliver'd; only the moſt frugal Methods will be here laid down, which were in ſome meaſure omitted in the foregoing Schemes, where Reſpect was chiefly had to the Proportion and Magnificence of each reſpectively.

Obſervations and Directions, for Plate the Thirty Sixth.

The Firſt Figure in the enſuing Plate preſents us with the general Plan of a Building, with the Court Yards Offices, Gardens, &c. thereto adjoyning. And the Second Figure of the ſame Plate, the Ground ſtak'd out into thoſe Diviſions; and, ſince, as is before hinted, moſt Scituations allow ſuch a Level as this, this, or ſome Deſign like this is, and may be the Plan of our Proceedings, eſpecially, in all new undertakings, where there is ſuch an open Level Spot.

To accompliſh which, we muſt ſuppoſe that the Building is adjuſted and ſtak'd out by the Builders themſelves, as it is indeed, their proper Buſineſs, the Plan of which being given, the Gardener draws into ſuch a Compaſs, as that he may intelligibly figure every Creek thereof, ſince it is by them he is to govern himſelf, in all that lies contiguous thereto; his Scale that he chuſes may be from 40 to 100 in Inches, according as the thickneſs of his Work requires, but, generally ſpeaking, what I have named is ſufficient Room for the figuring, or, as we ſhall for the moſt call it, the Quotations on the Paper.

And you are to obſerve, that not only in the inſide of the Deſign, but alſo on the outſide, there are ſeveral general Lengths figur'd, to which the Gardener may immediately repair

pair for any Queſtion he derives upon his Draught, as to Length and Width.

Upon this Paper having then made an Abridgment of the whole Deſign, or, which is rather a plainer Way of expreſſing it, reduced the whole Plan into a ſmaller Scale than the Original, (perhaps, from 20 in an Inch to 40, from 30 to 60, or from 40 to 80, and ſo on) you will by a little Extenſion of the Lines, the Boundaries of the Plan, at leaſt, that Part of it that lies neareſt to our Building, which ſuppoſe to be the Lines mark'd out, Figure the 1ſt, on the next Plate,

Which Lines, being all quoted as to their Length and Breadth upon our Draft, or Paper, as above (For it is the moſt puzzling thing imaginable to let that alone, and to take the Length and Width of by the Compaſſes in the Field) you are to begin, firſt, at the Houſe, all the Lines there being ſtak'd out already by the Builders, as before mention'd: Then having found the middle Line (which indeed is, or already ought to be, done by the Builders in the ſetting out the Foundations of their Work) you are to ſet off, firſt, the Terrace Walks, a hundred Foot the Horizontal Lines of the Slope down into the Parterre, ten Foot out each place, ſetting down Stakes, exactly in the Places where thoſe Dimenſions fall.

Keeping then ſtrait forwards in the middle Lines, you are to ſet off three hundred and fifteen Foot for the length of the Parterre,

and ten Foot for the Horizontal of the next Slope, and the three hundred and thirty five Foot to the Center of the Sweep, at the upper-end of the Parterre of Water, or Bowling-green of Graſs, be it which it will, which Sweep being there from mark'd out, as eighty Foot, and the Walk thirty Foot, at the end of it, you are to meaſure the Extent of the middle Line, be it five hundred and thirty Foot as upon the Draft, or more, or leſs.

This being done, you are to return where you began, and then conſider, ſomething concerning your Levels or Profile Lines. Concerning this, I have been already very particular, and ſhall here need only direct, that the firſt hundred Foot ought to be near a dead Level, as we call it, becauſe, if there are Peers at each end, as there generally are on all great Terraces, the Plinth will otherwiſe have but a very ill Aſpect.

The ten Foot Slope we here allow three Foot and a half Perpendicular to, if the Ground allow it, or otherwiſe, but by no means leſs than two Foot and a half, in which laſt caſe you muſt contract the Horizontal Line of your Slope to ſeven Foot, or thereabouts, otherwiſe it will be too flat.

To purſue our Profile, and allowing an Inch in ten Foot fall, it comes thirty one Inches and a half fall in the Parterre, and that you will fix by making a dead Level at the upper-end at A, (as has been already taught) and

and by ſlipping the Rule up and down at the lower-end of the Parterre at E, a piece of Paper, and driving the Stake there, till it comes to the exact meaſure of two Foot, ſeven Inches and an half.

'Tis true, theſe ſinkings might have been done as you went all along in the meaſuring; but I have in this place, a deſire to ſhow the Plan, and Profile diſtinctly, and ſo leave it to the Gardeners Choice. And now let us go on again to ſink the Slope, which, ſuppoſing to be three Foot and a half, either more or leſs, according as the Ground ſeems beſt to allow; for I would by no means limit any Body; the ſinking or raiſing an Inch may ſave the Workman 10 or 20*l.* in his Pocket, and the Work never the worſe; and the truth is, 'tis in this, that the greateſt Judgment of an Undertaker conſiſts, (*viz.*) that he has ſo great Care and Knowledge as to fix his Levels in ſuch a manner, that he may not have any Earth to bring in, or to carry away.

But, to re-aſſume the Subject we were upon, we are now fallen from the Levels of the grand Terrace, firſt, three Foot and a half, then, two Foot ſeven Inches and a half, and, laſt of all, three Foot and a half, which is in all nine Foot ſeven Inches and a half, and be this laſt Level, either a Parterre of Water, or a Bowling-green, or any other Level Parterre, or Lawn of Graſs, we may perceive according to the Draft, that we are

at the lower-end of our Levels, and in entring upon our Wood-work: It is therefore now our purpoſe, having eſtabliſh'd the middle Line and Level, to let the further-end of the Ground Walk to be followed as it naturally lies, (except there ſhould happen to be an extraordinary deep Hole, or a Hill, that ſtopps the View) to let it have its ſaid natural Courſe, and to return to the lining and levelling of the Side Diviſions of this Deſign.

It is very obvious to any, that underſtand the leaſt of Line and Level, that the Diviſions quite round the Building, and the great Terrace that the Levels thereof depend on the Bottom of the Plinth of the Baſis of the Houſe; and that every Undertaker ought to ſo forecaſt his Buſineſs, that the Earth that comes out of the Foundations and Cellars of the Building, ſhould ſupply all the Defects of the natural Ground, that it ſhould help to raiſe that and all the Terraces, and give the Building it ſelf that Elevation, that is required to it, in order to compleat its Beauty and Magnificence; and this is the particular Care of the Surveyor and Gardener, and not ſo much the Builders, who very ſeldom and (indeed it is not ſo much their Buſineſs) care whereabout they fix their Plinth and Baſis, leaving the Gardener at laſt to remove, perhaps, at a very great Diſadvantage, all the ſuperfluous Earth that lies round the Buildings, and entails an Expence almoſt as great as the making his Gardens, and the

Building

Building at the ſame Time, bury'd as it were, under Ground.

The Plinth ought, then, to be at leaſt three Foot and a half, above the common Level of the Ground; for 'tis eaſy, in Caſe an error is committed on that Side the Queſtion, to remedy it.

I need not ſay much here, as to the lining out thoſe Out-court Yards, as to the levelling and firſt fixing the Plinth; for in Caſe we ſhould by miſtake fix the Levels a little too high, 'tis an eaſy matter to make good the Terraces, by ſinking the Parterre or Court Yards a little the lower; and if the Terraces are four or five high round the Building, it is yet an error on the right Side, and as has been often obſerv'd, makes the Building ſtill the loftier.

This being well underſtood, and the Level and Bottom of the Plinth fix'd rather too high than too low, it is eaſy to fix in and level the Stakes in the grand Court, and the leſſer Court Yards, from thoſe that the Maſons and the Gardener agree upon for the Level; and if the Ground falls off, to let thoſe Courts hang likewiſe; and if otherwiſe, to let them remain on a dead Level. And from this let us return to the ſtaking out, and levelling the Side Terraces, which I would in ſuch a Deſign, as this, always, plead for, for the Reaſons I have urged in the Chapter treating of Ter-

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race Walks, where the Method of doing it is likewiſe handled.

It is ſufficient here to intimate, that at the Letters O O, a dead Level be carryed on as far as the Peers on each End at B B, thus far however is requiſite ſhould be dead Level; but afterwards, we ſhall fall into our Woody Scenes, as will be ſeen in a ſequent Plate, and then we ſhall follow the natural Fall and Riſe of the Ground; and this will let us likewiſe into a Conſideration, how long we ſhould make our great Terrace of a Level, which we may venture to fix at 600 or 700 Feet, or 1000 at moſt, and thus long are the two beſt Terraces in their reſpective Kinds, that we have in *England.*

Whether the End of this Terrace ſhould be ſtopp'd by a Graſs or Grill, will be argued by and by; tho' a Graſs is certainly the beſt, as lying moſt open. As for the Side Diviſions of Wood on each Side the Parterre, let them be according as the Ground is too, it will not be a Fault in them, if one of them lies one Foot or two higher than the other, it is not ſeen in a Wood, tho' it may be a Blemiſh in an open Terrace, Lawn or Parterre. And hence forward we ſhall follow Nature, and think no more of levelling any otherwiſe than a croſs the Walk, which ought not to be ſideling; becauſe it will be an Inconvenience to the Perſons that walks in it, and as for the lining this and the lower part of the Wood out, the

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Deſign as it appears ſtak'd out, tells more than many Words.

I ſhall only adviſe on this, of Line and Level, that the Slopes of the Side Terraces in the Bottom, Level of the Bowling-green, or otherwiſe the Parterre of Water, are by the caſt-fall made conſiderably greater, in Truth juſt double; for that the Side Terraces ſhould keep the Level all of one length quite thro'. When therefore the level is made acroſs the head of our Work at O O, and at A, that then you repeat the ſame at D, quite croſs the Bottom of the Work, letting the ſide Terraces hang half an Inch in ten Foot, as the Parterre above does an Inch; and this will cauſe the Stakes at F F, the Top of the Side Terraces, at the lower-end to be two Foot and ſix Inches, or there-abouts fall, and the ſame Level at F F, to be (ſuppoſing the Level of the Bowling-green, or Parterre of Water, a dead one, which it muſt be) four Foot ſix Inches; beſides, if it be ſuppos'd to cramp the Slope, 'tis an eaſy matter to give the Walks on each ſide the ſaid Bowling-green, *&c.* a Foot dependance to the Bottom of the Lawn; and that will make the Head of the Terrace at F F, five Foot ſix Inches, which will make the Crampneſs of the two Levels imperceptible; I mean, that of the upper Level falling an Inch in ten Foot, and the lower one, being upon a dead Level, whilſt the

the Terrace of each Side, muſt have an equal depending Line.

But I muſt not finiſh this Section, before I remark, that, at the End of the Side Terrace, inſtead of Stone Steps, there may be obſerv'd to be only Slopes of Graſs. For as the Intent of the Writing, this Terrace is to ſave all the Expences poſſible, ſo I can't but obſerve in this place, to what a needleſs Expence, many Gentlemen run themſelves in Stone Work and Stone Steps.

I do not by any means argue againſt the Beauty of them, and againſt their uſe in the grand Deſigns of Princes; but they are in themſelves, ſo expenſive that all thoſe Perſons that attempt at a frugal Way of Gardening, ought by all means to avoid them. 40 or 50*l.* is ſoon Expended in ſuch Works; and that Sum of Money will do a great deal in extenſive and rural Gardening; and beſides, tho' that be but a deſpicable Sum in compariſon, yet we ought to remember that ancient frugal Proverb, *Every little makes a mickle*; and that being often repeated, it very much enhances the Expence of Gardening.

One would therefore uſe Steps, but in the two Slopes, that fall down one under another, and, the truth is, the Deſign of Slopes, is alſo to ſave Expence; for that your Terrace Walls as are generally made, are to be rejected as much as poſſible likewiſe.

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The Proportion that one would allow in ſuch Slopes, where Steps ſhould be (and for frugality we make Slopes of Graſs) ſhould be at leaſt five or ſix Foot Horrizontal to one perpendicular; according to which theſe Slopes are about forty Foot Horizontal, which is full enough; and, in caſe of Want, of Room thirty Foot would have done very well. And with this, I ſhall finiſh what I had to ſay, as to the Delineation and Profile of this Deſign, coming now to the Method to be taken in working it.

SECTION V.

Of the Method of working the aforemention'd Deſign.

THE Ground being ſtak'd out, as is before directed, with Stakes of 6 Inches ſquare, and, if it be a looſe hollow Ground, of two Foot and a half, or three Foot long: or, if a clayey faſt Ground, one Foot and a half, or two Foot is ſufficient; if the Stakes drive hard, they ought to be of hardeſt, knotty, ſurly Oak, and ſo ſtrong, that four or five Men may drive them down with Sledges or Beetles as we commonly call them; for it muſt be obſerv'd, that on the Deſign before-going, there are but a few principal Stakes mark'd therein, which Stakes ought to be ſo fix'd, that no Cart or other com-

common Accident may remove them; which, if you ſuffer, the Lines will be always out of Order, and the Levels ſo uncertain, that it will be the greateſt Perplexity imaginable to work; and at laſt, perhaps, it will be all falſe, and to do again; and this is a misfortune that happens ſo often, that I can't but repeat my Directions again and again in this Point; ſince by the Careleſsneſs of Workmen, Carters, and Labourers, your Stakes will be ſo confounded, that 'twill be hard to find where about you are, without often beginning *de novo*, and tracing your Levels over again.

The Gardener ought, therefore, to lay an Heap of Buſhes round theſe main Stakes, to ſecure them againſt what may happen, and as for thoſe Stakes, that are to be put at every ten or fifteen Foot diſtance between them, then it will be time enough to do that juſt as your is Work going forward, which may be done with ſmaller Stakes; but be ſure theſe angular and main Stakes be ſtrong, and drove in by four or five Men as hard as they can drive them, ſo will your firſt Onſet be ſecure, and you may with Pleaſure proceed to what follows.

And in the firſt place, the Ground being thus mark'd out, if your Swarth and Turff be good, and the Seaſon proper, you are to conſider, how to uſe that to the beſt Advantage. I mean the Turff cut, as we commonly

monly do it, about ſix Inches Thick, and uſed in the covering of our Carpet and Terrace Walks, and on our Plates and Lawn of Graſs, or Bowling-green; and here it muſt be obſerv'd, that, tho' the Turff it ſelf may be coarſe, yet a little good keeping by moving, rowling, *&c.* will make it fine, and it will be a great Convenience, and ſave a conſiderable Sum of Money, if you can have Turff enough there, or in any Paſture Ground near at hand, which will by ſowing of Hay-ſeed, ſoon come again fine enough for its own Purpoſe; perhaps the Convenience of this Turff may ſave the Owner 50 or 60 *l.* in his Pocket, Carriage being what a Man ought above all things carefully to avoid, altho', as I have often heard the weakneſs of the Arguments, the Draughts (as they commonly call them in the North) be the Maſters own, yet in this Work he will find too many things of abſolute Neceſſity to be done by them, to employ them idlely; beſides, they muſt at the ſame time have care to feed them well, and Cart Gears, and the Attendance of two Men, which might be otherwiſe, and, perhaps, much better employ'd.

We begin, then, in this Caſe, with the Parterre quarters mark'd H H, for it is no matter, when the full Deſign is ſtak'd out, whether one begin in the middle, or at which end it be, the Pains and Care we have been at, in adjuſting the Line and Level ſufficiently anſwers

that

that, and we may begin where the Nature of our Work and Materials require.

It is always to be obſerv'd, that our Stake Heads are 6 Inches or more above the common Level of the Ground, to give Room for the ſtraining and tying the Garden Line, for levelling and raking. Having then rang'd in ſmaller Stakes in the quarters H H, and reduc'd them to a rough Level, and having alſo ſome fine Mold at hand, to throw over to rake fine in order for the Turff, (which Levelling, Raking, *&c.* has been taught elſewhere) you are to lay your Turff, and having finiſh'd both quarters, you are to proceed to the large Bowls below, placing round the Edges of your Graſs, to keep People from trampling thereon; and then repeating the ſame Method, you will perhaps have uſed all, or moſt of the Turff that was in the Way, either on the ſpot where your Work was doing, or on the grand Area, or Plan of the Building, and in contrivances of this Nature 'tis that a great deal of Money is always ſav'd, and on the contrary, generally thrown away by the inconſiderate Careleſsneſs of many, that pretend to Buſineſs of this kind, Perſons that are always in a Wood, (as it were) and never know or conſider, where and how they are to begin or end to the beſt Advantages.

Having then, by all poſſible Methods uſed the beſt and moſt uſeful of your Turff or Swarth; you are to proceed to fleece off all the

the good Mold you can there find, carrying it either immediately into Heaps or Leſtals, or otherwiſe to your Kitchen Garden, or Quarters and Diviſions of Wood, *&c.* This Care ought by all means to be taken, where your Earth is ſhallow, or but indifferent; but where your Earth lies naturally very deep, there needs no ſuch Expence, but this with all the coarſer Earth may be jumbled together in the making thoſe Terraces, that are deſign'd round the Houſe; but 'tis very much to be doubted, where one may once in ten times find ſo happy a Scituation and Soil, as not to require our former Care and Pains.

The Turff thus (ſuppoſedly) carried away, we may obſerve our Level Stakes from two Foot to ſix Inches high above the natural Ground, and perhaps a conſiderable deal more. Theſe Stakes are then to be filled up with the Earth, dug out of the Foundations of the Building and the Cellars; and afterwards, if thoſe Terraces are not quite filled up, then we muſt have Recourſe to borrow of our Neighbouring Plats to finiſh them, and here, as has been before obſerv'd, it can't poſſibly do much hurt, tho' by a more judicious Calculation, we might have ſav'd ſome Expence, but our Plinth is fix'd, and we are oblig'd to work up to it in all our Levels. However, as I have already urged, 'tis an Error on the Right Side, and is much

better than burying the Building too deep.

When your Terraces are every where made good, and brought up within about 2 or 3 Inches of the Plinth by the Cart or Wheel-barrow (which ſhould run forwards and backwards thereon, as much as the Nature of their Rake requires) let it remain a while to ſink, if two or three Months, the better; for Terraces that are rais'd high are apt to ſink in Holes, and then the Owner is apt to fret. In this Caſe, then he ought not to be too haſty, but beſides his ramming it well, and carting, wheeling, and trampling it over, he ſhould ſee it well ſettled; while, on the other hand, the lower Quarters of a Parterre, or an open Lawn, or Bowling-green, that is not ſo rais'd, may be immediately turff'd ſo, as to uſe the Turff that otherwiſe would be ſpoiled, or lye in the Way.

I have in one of the preceding Chapters ſhown how to take the mean of any Level, and, by meaſuring the Depth of every Stake-head, to find what Gauge to go, and this is particularly uſeful in all theſe Caſes, where (if ſuppoſe it be the Lawn) you have 200 Stakes all of different Heights above the natural Ground, by adding thoſe ſeveral Heights together, and dividing them by the 200 (more or leſs) the Number of Stakes it gives, that mean Depth you are to go, and will cauſe the Iſſue to be, that you will very near the

the matter have no Stuff either wanting or to ſpare.

When your Terrace Walks, and your other Diviſions, are therefore levell'd in your Parterre, Court Yards, and Terraces, and ſo much of it turff'd as you think convenient, on Account of its ſinking, thus let it remain a Month or two, only beating on it well, and ſometimes rowling it; and be not over-fond of mowing it, till 'tis well ſettled; for 'tis that that often makes it bare in many Places, eſpecially if the Weather be dry, and hottiſh. And now let us proceed to the Side Quarters of Wood, leaving the Turffing of the Terrace Walks, 'till a longer Seaſon, and the gravelling the Intervals, (for I ſuppoſe nothing but Graſs and Gravel, Statues, and Foreſt Trees in all my Deſign) ſtill longer, even till the laſt Thing of all be done in finiſhing the Garden.

Coming now into the Side Quarters I I, *&c.* already ſtak'd out (as before) you are to examine the Nature of your Levels, and what Gauge you can beſt go to make your Stuff hold out. Which done, ſuppoſe it ſix, eight, ten, or twelve Inches Gauge below the Heads of them, ſtrain your Line to that Depth, and while ſome are digging, or trenching in the Quarters, let others be digging on in the Walks, and throwing thence what good Earth lies there, in order to fill the Inſide, and make them ſo much the deeper.

And in truth, where-ever the Ground is ſhallow, there we commonly contrive as many Walks and Cabinets as we can, and make them ſo much the wider, that the Earth that comes thereout, may raiſe the Quarters to a proportionable thickneſs. And let theſe Quarters remain rough, and in Ridges, that the Ground may ſweeten, and meliorate, eſpecially, if it be a wet, ſour Land, it is better to loſe a whole Seaſon in planting, than either to ſow, or plant on ſour, wet Land, where the Trees will not root, nor the Seed ſprout, whatever the haſty and impatient may think of it.

The ſame Care and Proceedings ought to be in the Quarters K K, *&c.* in all, which if the Ground is lumpy, heavy, and ſtiff, or wet, and ſour, one ought firſt to take care to draw off the Water, and then to ridge it for a whole Winter Seaſon, and, if very bad, let it lie fallow all the Summer, only ſowing a few turnings; and by the *Michaelmas* following, you may expect your Ground to be in good Order, either for planting, or ſowing.

And now we return to the finiſhing our Terrace Walks, and Parterre, that are not turff'd, and to the gravelling thereof. Gravel indeed muſt be got where it can, but Turff is, without doubt, to be had nearer at hand, than where 'tis generally got; and I can't but often think with Pleaſure on the Frugality of a Gentleman, for whom I lately did ſome

Buſineſs,

Buſineſs, who reſolving to plow an Up-land Paſture for Corn, that had lain Paſture a great while, fleec'd off all the Turff, and thereby ſav'd 40 or 50 *l.* and might, had his Deſign been bigger, ſav'd himſelf 2 or 300 *l.* in his Pocket, whilſt another Gentleman of no leſs Character wilfully fleec'd Part of his Meadows for that purpoſe, which in one Summer came as thick again, and to my certain Computation ſav'd 150 *l.* But ſo wedded are all our Gardeners to their old Ways, that no Turff will do but finer Sheep Walk Turff, which very often turns moſſie, and is not worth a Farthing, while the luxurious Turff of Paſtures grow ſtrong, and maintains an excellent Verdure and Carpet; and, in truth, after a little more Care than ordinary, in mowing and rowling, is much beyond the fineſt Sheep Walk Turff that can be found.

'Tis already obſerv'd that Turff ought to cut about two Inches thick, and this eſpecially, if it be cut either very early in Autumn or late at Spring, but great Care ought to be taken that it be cut of an equal thickneſs, and well joynted in laying, that it have, at leaſt, four Inches of the midling ſort of Mould to lay on, and, if it be furring Gravel or Sand, that the Earth be ſix, eight, or ten Inches thick, and if Part of it be a ſtrong Loamy Clay, 'tis ſtill the better and will maintain its fineſt and natural Verdure; the want of which is a great Blemiſh in ſome

of our Gardeners, that have been careleſly made.

If the Ground be freſh and clear from Weeds, ſowing with Hay-Seeds, choſe out of ſuch Hay-lofts, where the Hay lyes that comes out of clear Up-land Paſtors: But if the Ground be coarſe and foul with Weeds, Turfſing is much the better way, ſince the Weeds will come up ſo faſt, and ſo thick, that it will endanger the Eradication of your young tender Graſs, and coſt more in weeding and keeping afterwards, than would have turff'd it. The beſt time to ſow Hay-ſeed is *Michaelmas*, or before, or, indeed all the Month of *September*, when the Husbandman ſows his Wheat; and, if *Auguſt* be a cooliſh Month, even then it is not too ſoon, eſpecially conſidering that ſuch Seed will not take any harm by lying, they ought to be clear'd and ſettled; as for Corn, it being a great Fault to ſow it, ſo foul as ſome do, wherewith grow up all Sorts of Traſh, which will inevitably ſpring up with it, and always look ugly.

The beſt Earth, either for turfſing, or ſowing of Hay-ſeed, is, the Crumbs, as we expreſs it in Gardening, or the next ſpit or Shovelling of Mould that lies under the upper Turff'd Spit; for, tho' that be ſometimes Cloddy, yet by laying it upon the Verges, and Quarters deſigned for Graſs, and expoſing it to the Sun and Air for a Fortnight,

or

or three Weeks, the firſt Rain that comes, it falls to Duſt. This is ſuppos'd to be in the Autumn Seaſon, towards the latter End, the beſt Time of any for the Deſigns, and laying out and planting of Gardens.

The next Care is the Gravelling the Walks, that lie betwixt the Quarters, and Diviſions of Graſs, out of which I do ſuppoſe there is already taken all the good and ſecond Sort of Mould for uſe; the Bottom of all theſe Walks ſhould be fill'd with Lime Rubbiſh, or Coarſe Gravel, Flint Stones, or other Rocky Stuff, in order to keep the Weeds from paſſing through; and this ought to be eight, or ten Inches over, which you may lay ſix, or eight Inches of fine Gravel, not ſcreen'd, for that ſpoils it, but beſt on a round Heap, by which means the great rough Stones will run down on each Side, and thoſe being every now and then rak'd off, the Gravel is fine enough for our purpoſe: The Fineneſs of Gravel in ſome Walks being unpardonable Folly.

When you come, then, to lay your Gravel ſix Inches thick, or eight, or ten, if plentiful, you are indeed oblig'd in Order to Rake the Walk true and level from all great Dips, as well as little Holes, I ſay you are here oblig'd to Rake almoſt all the Stones of your Walk under your Feet; but inſtead of burying them all, which many Gardeners do, even to a Fault, one ought rather to ſprinkle

them back again, gently over the laſt Length that is Raked, whereby the Walk lies much the firmer, and thoſe coarſeſt Stones do not add a little thereto.

In the firſt Volume is hinted a Remark of Walks being made too round, and this is committed in very many Places to ſuch a degree of Folly, that you can't walk with that Eaſe and Pleaſure one ought to do, beſides the Roundneſs takes off a conſiderable deal from the ſeeming Width of the Walk. An Inch Crown in five Foot, is what we allow, for our Gravel Walk; ſo that if the Walk be twenty Foot wide, 'tis higher in the Middle, than on each Side by four Inches, if twenty five, five Inches; if thirty Foot, ſix Inches, and ſo on.

After the Walk is laid carefully, or indeed after every Length or Part of it, which is, commonly, about fifteen each, you are carefully to rowl it long-ways, and croſs-ways, the Perſon that does it wearing flat heel'd Shoes; for when little Holes are once made, in a new Walk, 'tis not eaſy to rowl them up again. But, above all, three or four Water Rowlings are very Eſſential, to the laying Firm of a Gravel Walk: By Water Rowling, we mean, when it Rains ſo very faſt, that the Walks ſwim with Water, and, this makes the Gravel bind; and, as ſoon as dry Weather comes, they bind as hard as Terrace.

The

The beſt Gravel for binding is a kind of Iron Mould Gravel; or Gravel with a little binding Lime amongſt it, and ſhew, the latter is apt to ſtick to the Heels of ones Shoes in hot Weather; yet in dry nothing binds better. And this directs to the method, ſometimes us'd, of mixing Loam with it, when the Gravel is over Sandy or Sharp, this being caſt in Heaps, and well mix'd and blended together, will bind like a Rock; whereas looſe Gravel, is as uncomfortable, and uneaſy, as any other Fault in a Walk; and 'tis in this we in *England* are always like to exceed, either the *French*, *Dutch*, or *Flemming*.

The propereſt Time for laying ſeveral Walks is in the Month of *March*; and, as it is a Folly to lay Walks for Winter, ſo it is alſo to begin ſooner in the Spring.

The laſt that I ſhall here mention, tho' 'tis a Work that is often done, before either of the other two, is planting or ſowing. But of this I have ſaid ſo much in the firſt Volume, that I ſhall not repeat it again, but only ſay a ſmall matter in Reference to the Deſign in Hand.

And firſt, to ſave Expence, both in the making and keeping, I put in a general Caveat againſt all Borders, Greens, and Flowers; ſo that how ſimple ſoever theſe Deſigns may appear, we only recommend plain Graſs, and Gravel; and the ſide Terraces, planted

at

at about twenty, or twenty five Foot aſunder, with *Engliſh* Elms; theſe will quickly make a Shade, and when they begin to be very big, and too thick at that Diſtance, every Second may be cut down to make Mony of.

But there is another particular that I muſt not omit, before I quit this Section, which are the boundary Lines, of the Court Yards; becauſe the manner of bounding them round with Walls, is very expenſive, and ought to be admitted no where but in the very great Deſigns of Princes, and for the firſt Rate Deſigns, becauſe Walling is very expenſive, and, tho' it does add a Beauty and Magnificence to our Seats, yet it takes away the Forreſt like and rural Aſpect of any Seat.

In the Room of Walls for preſent Aſpect, one would then plant large Hedges of *Dutch* Elm, or any other Hedge, the Groves quick about four Foot, within the deſign'd Wall Line; for this will make an immediate Line, while the other (which, let be of Holly, or Yew) will be coming up, and make a very durable, as well as beautiful Fence. And this, in ſhort, is all the Fence that ought to be in rural Seats, as well as all the Yew or Holly Hedges, that one would have kept clipt in the whole Deſign; as for the view forwards, or of one ſide, let it be, if poſſible, of ſome Oaks already grown, or of Elms, and other quick growing Trees,

that

that ſhould be advancing with all the ſpeed, that Nature and good Management can direct or force them.

The Lines of Holly, or Yew, being then plac'd directly where the Wall ought to be, and three or four Foot without the Temporary Line of *Dutch* Elm; whilſt a low Wall and Graſs ſhall face the Courts quite round, in order to keep Cattle from coming near the Houſe, or otherwiſe, according to the Method I ſhall by and by direct in the two following Places. We have our rural and hunting Seat embelliſh'd in as cheap a manner as poſſible, ſo far as relates to the Court Yards, Terrace Walks, Parterre, Lawn, and the adjacent Wood; and, in ſhort, of every thing within the limits of what ought to be mov'd, rowl'd, and kept with a little more than ordinary Care; whilſt, at the ſame Time, we alſo avoid the Expence of Eſpalier Hedges in our Woody Scenes; for thoſe, as they are chargeable to plant, ſo are they alſo to keep; a continual tinkling of the Sheers being the unavoidable conſequence thereof.

The Quarters are deſign'd to grow up rude, and to have no other cutting but thoſe of a Bill, or Scythe, to lop off thoſe extravagant Boughs that hang over, and intercept the Paſſage of the Walker; and he is no leſs amaz'd at looking into the Quarters

on

on each ſide, viewing the Violets, Primroſes, *&c.* in their reſpective Seaſon, which Eſpaliers hinder, and, like Priſon Walls, ſtop the happy Proſpect into thoſe Quarters, and Diviſions, and the natural, but beautiful, Attire of Nature in her greateſt Glory. For my part, and I believe I am not ſingular, I can't ſee that Beauty in Eſpalier Hedges as I do in the moſt natural Coppice, or, at leaſt, ſo much as is by any means equivalent to the Expence: If they are allow'd any where, it may be in the middle Line, but this I can ſcarce do, ſo great an Averſion ought every natural and polite Deſigner to have to them (if ſo I dare call them) that not a pair of Garden Sheers ſhould ever be us'd by them.



CHAP. V.

SECTION VI.

Obſervations on Plate the 37th.

THAT I might proceed with the more Eaſe and Clearneſs in laying down the Rules for the general Diſtribution of a Country *Villa*, or Seat, I have choſen the manner of Paſture, that will be found ſurveyed and plotted in the 3d Chapter of this Book, Plate the 24th.

In which will be diſcover'd all that is requir'd to be learn'd in this matter; at leaſt, it will give ſuch a general Idea thereof, that all Gentlemen that have Mannors that lie altogether, may know how to diſtribute and improve them, tho' they ſhould not be of this Size or Form. To illuſtrate all, which the better, I ſhall explain it under two Heads. The firſt is concerning the Deſigning: And the next the Method of ſowing, planting, and finiſhing it, by laying out of little Gravel or Sand Walks, that ſhall have a thorough Correſpondence in all the whole Deſign.

The

The firſt thing, then, in order to the Deſigning of any Mannor into Works of this kind, is for the Owner to get it ſurveyed, and to make Obſervations of all Hedge-Rows, Hills, Pits, Ponds, Woods, and all other remarkable Things within his Deſign, and alſo all Remarkables without, as is taught Chapter the 3d, under the Article of ſurveying this Mannor of Paſture, by this he is furniſh'd with all the natural Advantages and Beauty of a Place; but this is not quite enough yet; for he ought to walk over it, and view it over and over again, ſince there are many things that offer in the Nature of a Scituation, that can't be contain'd in or thought of, upon a Plan: Such are the natural Advantages of Levels: Such are proper Places to ſink Pits, or to raiſe Mounts, to view and diverſifie the Proſpect: Such are, alſo, proper Places to make Pond Heads, and to dig Ponds, and for the exterior Beauty of a Seat: Such are the Proſpects of any noble Vale, Lawn, or ſurprizing Hills of Wood, and in ſhort, any Proſpect that is accounted valuable to theſe, there ought to be as open a View as poſſible; and, were we not to take this Care, one ſhould poſſibly miſplace our Wood, and do many things incongruous to the Nature of the Place we are to work upon: We ſhould perhaps place our Wilderneſs, or Wood-work, ſo as to intercept the beautiful Proſpect of ſome Hill or Vale; and at the ſame time by

by an open large Cut or Glade, bring in the uncomfortable Proſpect of barren Earths, or of Fields, that a great Part of the Year lie fallow; whilſt, within the Verge of the *Villa*, we may likewiſe poſſibly contrive a Pond, where it is impoſſible, or at leaſt not eaſy, to make one; theſe and ſuch like are the Misfortunes that attend a Cloſet Paper Ingineer; and, in Truth, a Painter may as well paint a Face he never ſaw, as a Deſigner hit the Nature of a Scituation, in which he is not well vers'd, and whereon he has not ſpent ſome Time in order to conſider how he may beſt Improve it.

Theſe being the Preliminaries of our Proceedings, let us ſuppoſe, that Plate the thirty ſixth, (the method of ſurveying which has been taught before) was to be laid out in the method we are now teaching, it being about twenty four Acres, a Tract of Ground, that there are few or no Gentlemen of any Eſtates at all, but what are Maſters of lying altogether; furniſh'd as they are very often with Hedges, and Hedge-Rows, with ſome ſcattering large Oaks, Elm, Beech, or Aſh; theſe we are to be very cheary of, and to take good Care that we do not cut them down, but draw our Lines by, and to them, and under all or moſt of them, to make Wooden Benches to ſit down under them upon.

As

As a Garden is our firſt and principal Thought, it ſhould not be a very large one; eſpecially in ſo ſmall an Eſtate as twenty Acres; if we allow three, or four for Parterre and Fruit Gardens, 'tis ſufficient, and thereabouts is this, which is in the thirty ſixth Plate.

It is eaſy to collect from the Plate, how the whole is diſpos'd, and I ſhall therefore be as brief as I can in the Deſcription of it; reſerving more Time and Pains to teach the method of planting, furniſhing, and improving it.

The Houſe, I ſuppoſe, is either by Nature, or contriv'd and built upon ſomething of an Eminence, ſo as to admit of two or three Falls or Terraces one under another, this I have elſewhere diſcours'd largely on, in as much as it gives a beautiful Elevation to a Building, tho' it is low in it ſelf, and, beſides, as has been before obſerv'd, diſpoſes of the Rubbiſh and other uſeleſs coarſe Materials in a better and nearer manner, than we can any other Way. So that, ſo far, the natural Rivulet is fill'd, only allowing an under Ground Paſſage or Drain for it to paſs.

After you are deſcended three Terraces, you have a plain Parterre of about 200 Foot long, with a circular Baſin at the farther End; I ſay a plain Parterre, and can't but always adviſe, that in all rural Gardening it ſhould be ſo; but if any Gentleman would

would rather have Greens and Flowers, he may have recourſe to ſome Deſigns in this Book, and others. The chief Furniture of this Parterre I ſuppoſe to be Engliſh Elms, planted upon the top of the Terrace Walk, that goes round it, that lies higher than the Parterre, and upon the ſame level with the little Fruit Gardens a a a a. And this Parterre we ſuppoſe to be ſunk ſomething below it's own natural Level, in order to elevate the Building, and to furniſh good Earth for thoſe little Fruit Gardens before mention'd, and, with what was of a coarſer Nature, to make the Terrace Walks round it: There is no Neceſſity of raiſing thoſe Quarters quite as high as the Terrace Walks, it is the more variety, if by eaſy Slopes (five Foot Horizontal to one Foot Perpendicular) one goes up Hill and down.

And you are to obſerve here too, that this is what one may properly call but half a Terrace, there being no Slopes but next to the Parterre, and this is of ſome advantage: Becauſe, firſt of all, in ſo ſmall a deſign, one has not Ground to ſpare to make Slopes on both Sides, and in the next, it ſaves both the Expence of making, and keeping, and is, in reality, it ſelf as well as if it had been a whole Terrace, and there had been Slopes on both ſides; for that the Beauty of Terrace Slopes is chiefly towards the Parterre, and would not be ſo much ſeen to-

wards thoſe little Quarters; and this I would adviſe (tho' it may ſeem of no great Conſequence to ſome) the frugal Gardener to.

It is obſervable, likewiſe, that thoſe little Gardens are compaſs'd about with Trees; which Trees I ſuppoſe to be a Hedge-Row fill'd with Coppice Wood, and Oaks, or other Timber; and to be about eight or ten Foot wide, or more, if it can well be allow'd. For this makes near as good an Appearance to the Houſe, as if it were all Wood; when, at the ſame Time, in reality, there are little Gardens within, and thereby not ſuch alienation of Ground, as a frugal Husbandman would repine at; for it muſt be own'd, that Wood-Lands are not of that advantage to a laborious Man, as cultivated Lands are; and that is the Reaſon, that in this whole Deſign, I have ſprinkled the Wood gently all over the Eſtate, and mix'd Lawns, Encloſures of Graſs, and Corn Fields therewith, and this, as it is the moſt eſſential Beauty of an Eſtate, ſo likewiſe it looks more rural, by it there is no great Alienation of Land, for the Plough and Paſture; but thoſe Fields and Encloſures that lie between them are ſhelter'd, and kept warm, and Poſterity may at ſome time or other be very thankful for it, and the Owner himſelf will ſoon reap the Benefit.

But eſpecially this way will ſcreen our little Fruit Gardens from Blaſts, and, if the

Wood

Wood be not ſuffer'd to grow too thick, will admit of Sun enough for the Maturation of Dwarf Fruit, Strawberries, Rasberries, *&c.* which we ſuppoſe to be planted in Beds in thoſe little Gardens.

In the next Place we obſerve, that the length of the middle Walk is near five hundred Yards, and looks as if it were all in the Garden there being little Eſpalier Gates, that open into all the little Meanders that run thro' the Eſtate, or indeed, if there were none, there would be no danger, ſince there is a general Correſpondence quite through the whole 24 Acres, ſo that no Cattle that feed there can come near the Houſe, being penn'd in thoſe Parts on flat Encloſures, wherein they are put to feed.

This middle Walk will, I doubt not, be lik'd by every impartial Perſon that ſees it on Paper, it being as long as the middle Line is in very large Gardens, and, if it be well laid, will be altogether as handſome. And to diverſifie the going down it, I have plac'd Plattoons or Poletoons of Trees, and alway ſuppoſe the Coppice Wood on each Side to be very high, or very low; ſo that a Gentleman, that walks down that Walk, may at thoſe Intervals have open Glances into the little Corn Fields, that lie on each ſide. And this rule ſhould be obſerv'd in all Walks and Deſigns, whether they are bounded with Eſpalier, or otherwiſe;

for to walk in a long Walk, and to have the ſides very high and cloſe, 'tis like walking in a ſolitary Lane, when one cannot ſee any thing on each ſide, but the Eye is bounded to it's diſcontent, whilſt, on the other Hand, a Traveller comes to a low Place or Gapp in a Hedge, he is pleas'd, and apt to ſtop, and look into the adjacent Field, with Pleaſure, and Satisfaction; and 'tis thus obſerving the rules of Nature, tho' but mean in Appearance at firſt ſight, that our Deſigns may very much be better'd.

Having thus giving ſome account of the Parterre, middle Walk, *&c.* we come to the Boundary of the interior Part of our Garden, which is eaſily diſcover'd to be an Hexagone in Fortification Work, for the digging of the Ditch makes the Terrace in the Inſide, and helps to raiſe the Banks on the outſide; ſo as to admit other Slopes, being what they call Fortification the cover'd way. There is ſome Art and Judgment in ſtaking out this Ditch, and Terraces; not ſo much in reſpect to the Lines, but ſo as that we don't go ſo deep as to have too much Stuff lie on our Hands; or otherwiſe, that we dare not pitch onr Levels ſo high, as to want Earth to make good our Terrace.

The Level of the River, ought indeed to determine the Surface of our Water in the Ditch, but that ſhould not force us to any Inconvenience in raiſing the Terrace. In

ſuch

ſuch a Caſe one would rather have a Sluice to let Water in, next the River, and another to let it out at ſome other Place, where it will have a Current to run off, if there be occaſion to draw it at any time.

The Fiſh Ponds in the Fiſhery are ſupplied by the ſame means, with Water let out of the Ditch, or River; but if the Nature of the Ground will not allow to carry the Surface of them ſo high, or near ſo high, as the River, it may be done by means of a cloſe Sluice, as is above hinted; ſince, perhaps, both in the Ditch, and Fiſhery, if the Owner were to carry it up to the level of the River, it would coſt him a round Sum of Mony, and his Deſign be never the better. And, if he ſhould be any ways annoy'd by Floods, which is very often the Caſe, he is by this means ſecure, having his River well bank'd on each Side, to keep it from overflowing his Lands.

The Profile, and Methods of making this Ditch, ſo as to hold Water; will be found in the Chapter concerning Water, at the latter end of this Volume; ſo that I haſt to the farther Deſcription of this Plate, and partieularly to the exterior Parts of my Deſign. After having obſerv'd that our Terrace Walk on both ſides the Water, is deſign'd to be planted with *Engliſh* Elms for ſhade, or, if any is ſo pleas'd, with Standard Yews, of which there are a great many at

Brompton Park. But this could not ſo well be made plain on the Draught, the Scale is ſo ſmall. And the Reader will, 'tis hoped, not be ſo ſevere as to expect on that account, that any particular, whether it be Parterre, Terrace Walk, or whatever it be, ſhould bear all its exact Proportions in this, or any other, of theſe rural Sketches.

But, to proceed, I have plac'd the bare ſurvey of this Mannor of *Paſton* (*viz.* Chap. 3*d* Plate the 24*th*) on one ſide, and the Improvements on the other; and have alſo by a prick'd Line ſhew'd the boundary how the interior Parts of my Deſign, and how they butt and found with, and correſpond to the exterior; and have alſo by theſe prick'd lines ſhown what Improvements are made to thoſe exterior Lines and Hedges; and ſo I ſuppoſe every thing relating to the deſigning Part of this Work, to be thoroughly underſtood.

It is viſible to any, that pleaſe to inſpect the Skeleton Part of the 36*th* Plate, that I I have made uſe of all the Old Hedges, and that none are cut down, but thoſe that ſtand in the direct Lines of the Parterre, and middle Walk, which could by no means be avoided, but all the reſt remain as they were before, and are only cut thro', that the Interſections of one Walk with another, in order to make the Communication eaſy to

one

one another, or, which is plainer, to make an exact Correſpondence and Harmony thro' the whole *Villa*, Mannor, or Eſtate, call it which you will.

We come now to the planting, and ſetting of this Eſtate, and the Methods to be taken therein.

As for the ſetting out the Parterre, and other Parts of the inſide of the Garden, I refer to the Plate foregoing, which, tho' not of the ſame kind as this, is yet more difficult; and he that can ſet out that, may very eaſily ſet out any, and this I have purpoſely omitted in this Place; not only on the account of its being treated of in the other, but that I might have the more room to explain, have the exterior Parts of all rural Plantations are to be manag'd.

It is very happy for ſuch Gentlemen, as find little Hedge-Rows, Coppices, and Lawns, mix'd one amongſt another by Nature; for there they may eaſily cut a Walk, of about ſix, or eight Foot wide, juſt through the middle of it; and, as there is always a Terrace ready made on one ſide of them, ſo 'tis eaſy having their materials at their Fingers Ends, to make another; and ſo to fence themſelves in on both ſides; as not only to keep out the Cattle, that feed in the Lawns, and Encloſures, that lie between them, within their owns Bounds; but alſo, from coming into, and cropping

the Hedge-Rows, and ſpoiling the Wood, and Walk; and theſe Hedge-Rows being mix'd with Primroſes, Violets, and ſuch natural ſweet, and pleaſant Flowers; the Walks that lead through afford as much Pleaſure as (nay I may venture to ſay more than) the moſt elaborate, fine Garden.

The firſt attempt of this kind, I ever ſaw, and which has in a great meaſure prompted on theſe rural thoughts, was at the Seat of a very great Perſon of this Age; I mean his Grace the Duke of *Shrewsbury's*, which in *Oxfordſhire;* is truly delightful, rural, eaſy, and pleaſant; for, whatever ſome may think of Magnificence, there is an inexpreſſible Pleaſure in theſe Natural, Twinings, and private Walks to a quiet, thoughtful, ſtudious Mind.

And that Gentleman whoever he ſhall be, that has Extent enough of this kind, will I dare ſay, not envy the moſt Magnificent Gardens in this World, ſet off as they may be, with the utmoſt Art, and Expence.

To go on with our directions, when the Walk is cut out about eight Foot wide, in the middle of any ſuch Hedge-Row, and the Hedge in good order on each ſide, ſo as to hinder Cattle from ſpoiling the Work. The Gardener ſhould then lay his Walk with fine Gravel, Sand, or Cockle-ſhells; the Gravel, if he has any, about half a Foot deep;

deep; and let him likewiſe, either ſow a Line of Privet Berries on each ſide, to make a Line, or, if it goes through a Field of Kitchen Stuff, an edging of Parſley looks very well, and will be very good Food for your Hares, *&c.* but the quickeſt and eaſieſt Edging, or Verge is of Turff, about nine Inches, or a Foot wide, laid ſloping, and true; and this you may let grow to what height you pleaſe, but not to let it ſeed. This ſhould likewiſe be done before you lay your Gravel; which will be handſomly bounded by this Liſt of Green.

I need but juſt mention that at all the Interſections of your Walks ſhou'd be made a Fountain, or a little Garden, of ſuch a Figure as you will find, in this or any other Book, or any Gardener can contrive; and ſhould be ſet round with little Nitches, Seats, and Benches; this I could not ſo well expreſs on Paper, the Scales being ſo ſmall; but this may be eaſily done, and theſe little Gardens will look as well a Mile or two off, as juſt by the Houſe (where-ever there is ſuch an extent) and will, in truth, be much more ſurprizing, the farther they are from the Place where one would expect to find Gardens.

What has been ſaid, then, is, ſuppoſing to have Wood ready grown to our Hands, but there are a great many good Seats have little or none; ſo that, we are in the next Place,

Place, to contrive how to raiſe it; and, which is of the greateſt Importance of all, to make it appear at once as large as one can; for the greateſt Diſcouragement moſt People meet with, is, that a great while they muſt live in Expectation, when they begin to raiſe Wood; eſpecially, if it be from Seed, which is what in this Caſe muſt be done.

When you come, therefore, into an Eſtate, that is bare of Wood, and there are only ſingle Hedges that croſs and divide the Encloſures, meaſure out either of one ſide the Hedge, or the other, twenty five Foot, or, if you will, thirty Foot; for I have not been exact as to that, in any of my Deſigns, (the Scale being ſmall) and, having a Hedge or Fence on one ſide, you muſt begin to throw up another on the other ſide; and having plough'd your Land (for there is no end of digging) and let it lie fallow to ſweeten, and to break the Clods, and be alſo well harrow'd, the Walk being prepared for Gravel, or Sand by throwing there out with a Spade, as ſoon as the Maſt in the Wood is ripe, begin to ſow, and to be ſure ſow thick enough, the Maſt coſts little; and, if they come up too thick, 'tis no harder a matter to thin them, than 'tis to thin Turnips. And you are oblig'd to mow the Ground the next Year, however, to clear the Weeds from your young Seedlings; this

is what ſhould firſt of all be done, in all thoſe new Walks, and Meanders you make in your Eſtate. The more Encloſures you make, the more uſeful is your Land, and, tho' there is ſome Land taken away, yet, I may venture to ſay, the value of your Eſtate in general, won't ſink, but rather encreaſe, and Poſterity will reap great Advantage of your ſowing, and planting, your Hedge-Rows after this manner; whilſt any Man in the compaſs, of his own Age, may ſee great Improvements.

I have, in the firſt Volume, laid down particular Directions, as to the ſowing, and raiſing of Wood, by all the methods now in uſe with us, which I need not repeat. But ſhall finiſh this Section, with directing, how your Hedge ſhall appear (in as little time as poſſible) full, handſome, and be of uſe for Shade, and Walking in.

And here we muſt obſerve, that the chief Views of this *Villa*, or Farm, and of the ſeveral Hedge-Rows and Avenues, that run every way through, and divide it into Parcels, are from the Garden; at which Place, were we to truſt entirely to ſowing, and planting of Sets, it would look but indifferent for many Years; we ſhould therefore, of the Roots and Sets, we get out of the woves, or that we either raiſe, or buy, plant the beginning of thoſe Hedge-Rows quite round, or where-ever they bound, and butt up,

up, upon the Limits of the interior Parts of our Deſign; and as they go off ſtill the farther, they may be the thinner; this the Eye upon the ſpot is the beſt Judge of, and the Perſon that directs the Planting, ought to ſtand upon one of the Baſtions (as it is here in this Deſign) and the Men that Plant are to move themſelves backward, till they can diſcover, whether they are far enough, or not; that is, in plain Terms, till he, the ſaid Director of the Planting, can ſee, that if they move any farther, there will be a Gapp, and the Nakedneſs of their Hedge-Row diſcover'd. And theſe Plants ſhould be as buſhy as you can get them; which I think is not hard to be got, in Country Coppices, and by raiſing Hills about them, as Mr. *Chaplain*'s Method was, and as is mention'd in the firſt Volume; you may plant Buſhes four, five, ſix, or ſeven Foot high, and need never be at the Expence of watering them. And thus much for the thick'ning the Lines, of the Hedge-Rows, that run from the Garden, thro' the whole Farm, and Eſtate.

The next Care, is to procure Shade with as much Speed as poſſible; which is, by planting Standards, at thirty or forty Foot aſunder, and about four Foot within the Line, or from the Edge of the Gravel, or Sand Walk; by which means, there will be ſixteen Foot wide, (if the Walk be eight Foot,) which is

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as near as they can be, and will, in a few Years, make a Shade; the thirty or forty Foot, I have been ſpeaking of, is, for the ſake of Shade, that the Gentleman that walks along, may not be too long, nor too much, expos'd to the Sun; for, as for the View from the Garden, if, they were farther, they would do as well; and it is an Obſervation of all frugal Planters, in reſpect to a View from the End of any Walk. You may plant them, one, two, or three hundred Foot aſunder, and they ſhew full enough from the Place of your Station. And this I particularly recommend to the Obſervation of all my Readers, in as much, as that in many Caſes, Half the Expence, I might ſay, five parts in ſix of what is generally laid out in Planting will do.

And this ſtands good, as well in the Dwarfs and Buſhes, I ſpoke of before, as in the Standards now: And the Reader may from hence, gather how few of each Sort in reſpect of View, will plant a Walk of a quarter of a Mile long, even, not above thirty Foot of each, as I have often try'd on the Ground; and, the narrower the Walk, the better. And thus may a Planter have all the Walks extending from the interior Parts of his Deſign plow'd, ſow'd, and planted, at the Expence of about 10 *l.* or 15 *l.* *per* Acre: And he has at the ſame time Lawns, and Cornfields lying between, that add much to the natural

natural Beauty of his Seat; and are always bringing him in Mony, to pay the Expence, by which means, the *Utile*, is mix'd with the *Dulce* in (I hope) a very agreeable manner.

But, to re-aſſume, the Thread of our Diſcourſe, the Trees, that are the moſt proper at preſent, and will be of as much Advantage to futurity as any, are the *Engliſh* Elm; that, being a very hoſpitable Plant, and any thing will grow under it; it will, ſoon make a Shade, and will anſwer the Expectation of the Planter, the beſt of any Tree, I can name. Tho' one would, in this caſe, get any Trees out of the Woods, that will move with any proſpect of Succeſs, to fill up our rural Plantations.

To ſum up all, the Advantage to be reap'd from this rural Way of Gardening, and of this little Scheme, in particular, we have here, tho' it be a plain mean Scituation, twenty four Acres of Ground altogether; and might as well, be ten times the Quantity, where the Owner may Work round it, and a-croſs it, in his Night Gown, and Slippers; and viſit all his Affairs, either late at Night, or early in the Morning; without either Dirt; or Dew. And ſeeing thoſe are the chief times, either for Buſineſs or Pleaſure, in the whole Day, I can't, but think that theſe imperfect Hints will be very acceptable to the World,

as

as they will be alſo more largely handled in the enſuing Plate.

In the mean time, the Owner may walk four or five Miles in this little Scheme, without going over one Walk twice, and by little Gardens, Seats, and other Ornaments; he has as great a Pleaſure, as one that enjoys the nobleſt of Gardens. His Expence in making, has been but little, and his Expence in keeping is yet leſs; ſince neither, the Scythe, nor Shears, and nothing but the Role, ſcarce ever comes here.

And, in Anſwer to what may be objected, by the lazy Drone, (*viz.*) its Slowneſs, in coming to Perfection, I muſt needs give it, as my Thoughts, to be of no weight; for, on the contrary, I always love to ſee a young Coppice coming up under-hand more than one that is larger; the Beauty of all Coppice Wood being, in my Opinion the next two, or three Years after they are fill'd, and before the young Wood grows up too high.

To finiſh this Section, the Gardener muſt, for a Year or two, after theſe Hedge-Rows are ſow'd, keep them houghed, as he does Turnips; and he may, alſo, ſow Turnips amongſt them, to creep down the Weeds, which he may pull up, and throw over the Hedge to his Sheep.

He ought, alſo, to Plant, in this Hedge-Row, good Store of Fil-berts, Hazlenuts, Damaſcens, and all other ſort of coarſe Fruit, and

and ſuch Wood-berries, as will entice the Birds: He may alſo Plant, Crabb and Pear-ſtocks, and graft them (the Apples, becauſe of Hares) two or three Foot above the Ground, and he may in ſhort, makes his whole Eſtate, as one large Garden.

The greateſt Expence that can be foreſeen in this whole Method, is in the infinite Length, and number of Walks; and 'tis for this and Water I ſacrifice all the other Beauty of our common and extenſive Way of Gardening. Grant me but theſe, and take all the reſt, but the Walks being but narrow, and be they either Gravel or Shells, or even Sand, and barren Earth, it anſwers my purpoſe, provided they be not laid too round or Hog-back'd, and the Stones be not ſo rough as they are in the Walks of St. *James*'s Park, which is doneby the careleſsneſs of thoſe that firſt laid them, and by the People that are always kicking them up; thoſe kind of Walks are the moſt preferable in this, as well as other Places, are ſuch as lie near a Level, and that are ſmooth, ſuch as thoſe that are made of Earth, or Sand, or fine Gravel.

But, I had almoſt forgot, to tell that Serpentine Lines, do not always go thro' enclos'd Hedge Rows, they having for the moſt part only Standards for Shade, as you go round in them, and Dwarf, Buſhy, Fil-berts, *&c.* between, and the great Cattle are kept from coming

coming into the Walk by a Ditch, or Stop and Rail, ſuch, tho' not ſo very ſtrong and of ſo good Timber, as encompaſſes *Blooms-bury Square.*

And tho' Sheep would be apt to creep under the Rails, and ſo get into the Walks, yet a good Ditch will frighten them; and if they did get in, they are harmleſs enough to be admitted.

This open Way of Planting ought alſo to be ſometimes uſed in long Walks; and we ought to take all the Opportunities we can to open Glances into the adjacent Corn-fields and Encloſures, for the Reaſons I have ſpoke to in the Paragraph about the middle Walk of this Deſign; and this is all I ſhall ſpeak to in this Section.

CHAP. VI.

SECTION VII.

Observations on Plate the 37th.

THE next Plate contains an entire Level Piece of Ground, and a Rivulet running round the same, which River Bounds in all the interior Part of the Garden, and likewise the pleasant Wood on the outside, and at the End by the Canal which forms a natural.

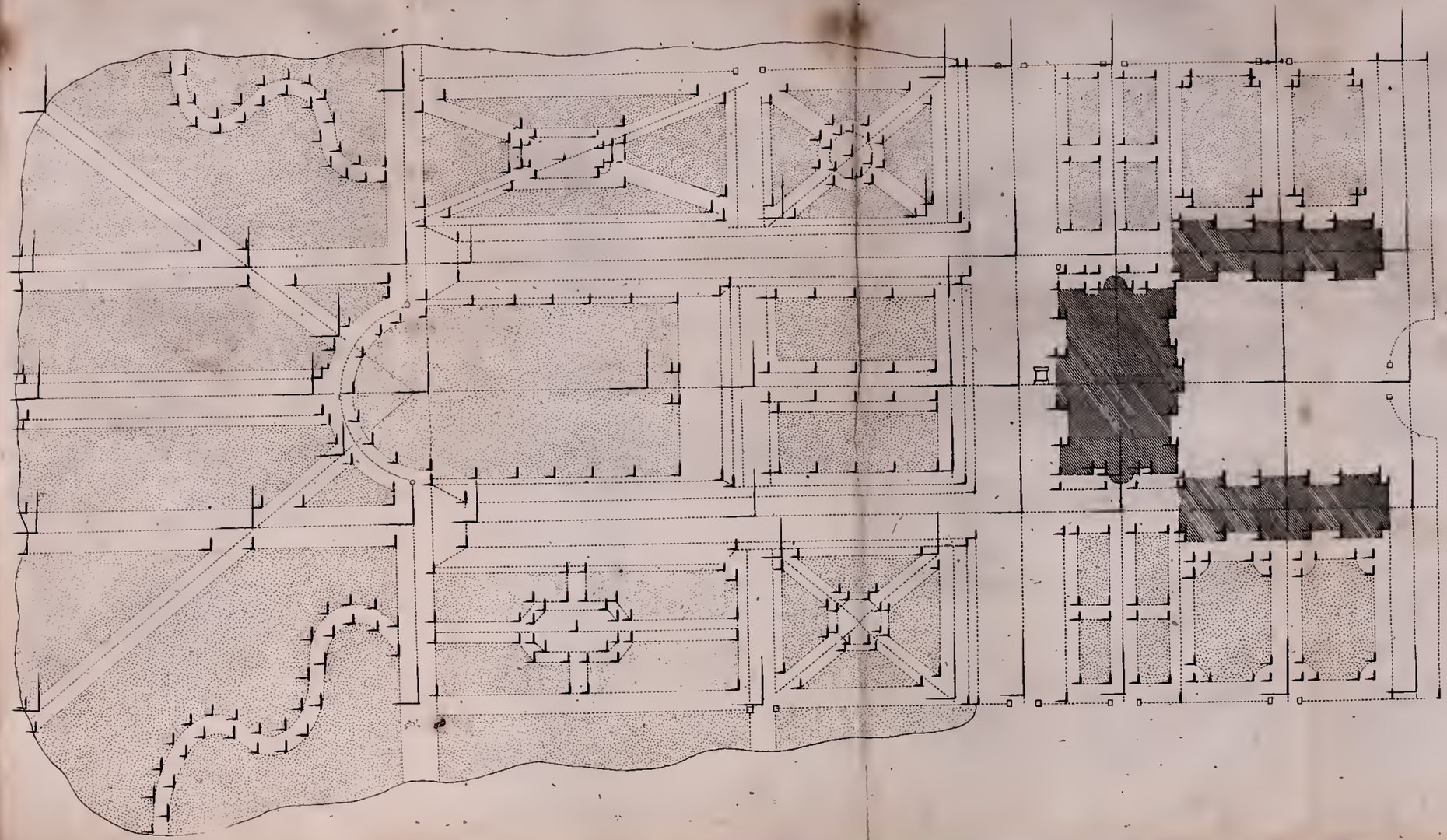
The main Body of the House is but 150 Foot wide; for which Reason, we suppose a long Gallery, or Lodgings at each End joyning to it.

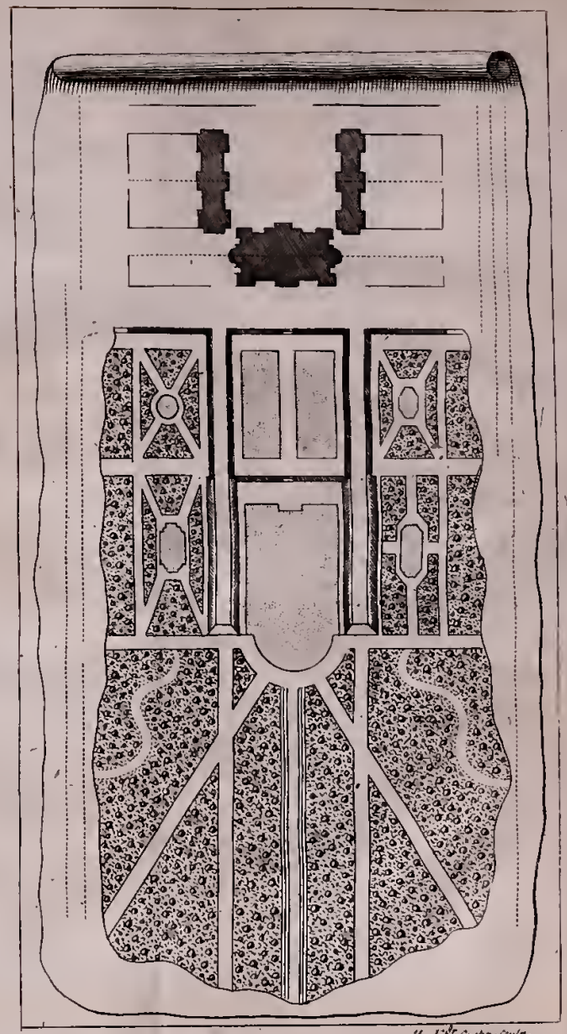
As for the Gardens and Estate adjoyning to it, the Draught explains it, so that I need add little on that Subject.

The Ponds on the Right are a supposed Fishery, and the Grounds on the Left for Padducks, the passing of the little Walks thro' them, makes them as pleasant as any Garden; and here 'tis we suppose, that all Trees, Bushes, *&c.* are kept a little trimm'd, I mean as to the extraordinary Luxury of them.

The

Plate 37. Page 98. Vol 3.d This Plate likewise relates to the Design mention'd page 52. of the 3.d Vol.





M. I.r Gucht Sculp.

The Woods on the other Side the Canal, tho' they are not in the Garden, will, however, appear as a Part of it, and need little Expence in keeping, and there may be the Pheaſant Houſe, being amongſt the Corn-fields. B is the *Villa*, or Farm-houſe, which one would always place at ſome Diſtance from the main Houſe, and the Walks and Avenues being kept neat and well, the Owner will not I am perſwaded think it too far to go to it. In ſhort, what muſt be the Beauty of this, and all other Deſigns of this kind; here is a thorough Communication thro' the whole Eſtate, without Styles, Gates, or any other Inconveniences; and, what keep the Proſpect open and undetermin'd, are the Rivulets or Rills of Water, which one would always make uſe of, in as much as no Cattle care to go thro' them out of their own Bounds, nor even Deer except they be forc'd. C is the Potagery, or Kitchen Garden, which ought to be as near the *Villa* as poſſible.

CHAP. VII.

SECTION VIII.

Obſervations on Plate the 38th.

WE are now come to the laſt of our Scituations and Deſigns, intended to be made uſe of in this Book; a Scituation attended with ſuch infinite Varieties of Nature, and accompanied with ſome of Art, that any one Perſon muſt rather wiſh and hope, than really expect, to find them in any one Place.

But, as ſome of them are to be found in one Seat, and ſome in another, and that in this Series of Diſcourſe, we are obliged to bring in all that poſſibly we can, for the Illuſtration of our Subject, we ſhall henceforward ſuppoſe it as a Scituation actually in Being, and not an imaginary one.

To begin at the Houſe which ſtands near the Brow of a Hill, you are in ſome meaſure environed with a beautiful Valley of about 200 Foot wide, which, in Conſideration, it is no bigger, I ſuppoſe to be turn'd into a Lake; how this may ſound in the Ears of the frugal, is not hard to determine; but that it is in it ſelf the nobleſt of any thing in Nature

ture, I preſume no Body will deny; beſides, it being no more than 200 Foot wide, there is nothing in it that is Monſtrous, and by making a Head out of the View of the Building, not much Expence, ſince a Head of Earth and Ballaſt Gravel, or any ponderous Materials, will effect it very eaſily.

Not to ſay much of the Court Yards, or the Circular Parade, or the Diagonal Deſcent; how eaſy 'tis in ſuch Caſes to make the aſcent or coming up to the Houſe, let us turn to the principal Part of this Deſign, and go out of the South Door of our Building into the Garden, where the extent and variety thereof will not be eaſily diſcover'd.

You firſt come out on a Terrace 100 Foot wide, and above 700 Foot long planted, if you pleaſe, detach'd from the Building (as has been heretofore ſpoke, in the Chapter concerning Terrace Walks) with *Engliſh* Elms, as we do alſo ſuppoſe the ſide Terraces to be, tho' it could not be ſhown, by ſo ſmall a Scale as this is.

If you turn to the left, as ſoon as you come out of the Door, you will diſcover a Wood on a riſing Hill, the thought of which any Body that has ſeen my Lord *Carliſle*'s Wood at *Caſtle-howard*, will eaſily diſcern is taken from thence; only, as the middle there is drawn to the Terrace before the Houſe, this is the grand Terrace on the

Garden Front, which is much better, can it be procured; but 'tis eaſy to be obſerv'd, it could not there, for that the Ground fell away too much on the North, and the Building could not be plac'd, on that account, further Northwards, than it is.

This riſing Wood may eaſily be imagin'd to afford ſome of the greateſt Beauties in Nature, both from the Houſe, and as you aſcend the Hill; and when you are up, gives ſuch a Noble Proſpect of all that lies round one, that it very much exceeds, all that can be imagin'd or thought of, in common Gardening.

But, to come to the Deſign, and the Method of ending, it is to be obſerv'd, there is a little Walk, that leads quite round on the brow of the Hill, which I call a Natural Walk, or Terrace, and which I do always lay down as a ſtanding Rule, in all ſloping Hills; the under Wood is all ſuppos'd to be clear'd away, and only the Timber Trees left; for this gives an eaſy open View to the Walker, and he ſees, with the utmoſt Pleaſure, all diſtant Proſpects, and particularly, that delightful Valley, with all its turnings, and windings, that lies under, which is always an adjunct to ſuch riſing Hills.

The Diſtribution and Figure of this Wood is by no means Regular; were it ſo, there would be an end of all its Beauty; but, walking round it you have, all the Natural View; for the inſide is ſo irregular, that 'tis

not

not eaſy to diſcover or plott it down, and is in truth cut out as Nature has allow'd it; for where-ever there was an open Place, 'tis there Nature directs, either a Lawn, or a Walk; by which means the Coppice Wood, is more full of ſmall Branches and Leaves, than it would be, if the Walks were cut out of a Thicket, and affords a Pleaſure greater than I am well able to expreſs; and here is no Regularity obſerv'd, but in that riſing Lawn coming from the Grand Terrace, planted promiſcuouſly on each ſide, and that open Lawn or Figure above, where we ſuppoſe to be Seats, and Statutes. But there we learn all the common Form, and by no means cut it out into a Star, or any Mathematical Figure; but follow Nature, and where-ever we find natural Openings and Glades, there, to make our Lawns and Walks, be they either ſtrait, or Serpentine, ſtill humouring, and not ſtraining, the Place by Art. A Walk that breaks off from one another at 20 degrees, is as Beautiful as at the Rectangle at 30, and a Serpentine Line that follows no Center, but Nature; as Convenient as, nay more, than, the moſt exactly Concentrick Figure, that the Line or Compaſs can deſcribe.

From this ſhort View of the Method of cutting out, and ordering, and the Beauties that attend our Natural Wood; we might proceed to think of it in reſpect of its cheapneſs, both in making and keeping; but this

will fall in a more general and proper Place, by and by; and, for that Reaſon, we return to the Front being in ſome meaſure ſatisfy'd, with what has but ſhortly hinted at, in this Particular.

And from the Center of this Front, review a Walk of above 1000 Yards long, and a Canal at the End, of an indetermiate Length; this, as to the general, but more particularly this method of a plain Parterre? in the firſt diviſion, and the Lawn or Bowling-green, that lies in the ſecond, bounded on each ſide by a Terrace, planted with *Engliſh* Elm; notwithſtanding its plainneſs, can't but have a noble effect on the Eye. I might in this Place have drawn more Avenues to the Houſe; but that I take to be one way of ſpoiling the varieties of any Scituation, ſince, by that means, all the Beauty thereof is ſeen at once, and there's an End.

But as you proceed down this middle Line, there is ſomething New and Noble, at every Center; as you paſs at the upper End of the firſt diviſion, with a large Statue, or Obelisk on the Hill, on the Right a croſs the Valley, while the other is bounded, ſhut with Wood. At the extremity of the Lawn, at, or near the Center the ſtrikes the ſweep: You view not only the croſs Walk it ſelf, but the middle; and two Diagonal Walks, of thirty, or forty Foot wide, that carries the Eye above 4000 Foot, quite a croſs the Valleys up the riſing

riſing Hills on each ſide, up to a large Center, which, if the View be there ſtopp'd, may be placed, either a large Statue, Banqueting Houſe, Obelisk, or what the Deſigner pleaſes; And, if there be Plenty of Water, a Caſcade rowling down, and facing the Perſon that looks thereon, at that great Diſtance. If it be thought that forty Foot is too little, for ſo long a View, I ſhall not conteſt it, but only obſerve, that the narrower a Walk is, the farther of appear, any object, that is plac'd at the End of it; and this I take to be of no ſmall account, eſpecially, if the Walk be not too narrow a Walk, of ſixty Foot wide, as the middle Walk is, will very well admit of 3000 Foot long (eſpecially when there is a Valley, that opens wider at the End of it) and for thoſe croſs Walks 4000 Foot long, to forty Foot wide, is not an ill Proportion.

To come nearer the Center of our Work, it is to be obſerv'd, that the Termination, of what may be properly call'd, the encloſed Garden Ends with this great Baſin, at the ſides whereof there are little Gates, that open by the ſides of the Fountain; which Gates do by no means obſtruct the general View, and are of themſelves ſufficient to keep all Cattle from entring into this Part of the Garden, that ought to be kept from their tramplings; and this is the largeſt Deſign, that the greateſt of our Country Seats

ſeem

ſeem to require to be in the inſide of the Garden, it being twenty Acres by this Scale. Altho', it may by altering the Scale, be made to ſerve indifferently for a deſign of the ſame Sort of eighteen, ſixteen, and fourteen Acres, but ſcarce leſs.

All the reſt of the ſide Walks, may be ſhut up, after the ſame Manner. The truth of it is, the Owner ought to have as few Gates and Styles, as poſſible; they being beſides the Expence a Trouble and Inconvenience in a great Eſtate.

Before I quit the interior Part of my Deſign, I ought to mind my Reader, that the ſmallneſs of the Scale would not admit to make much Work in the inſide of the Wood Quarters, neither, indeed, does there require much. But, if any Gentleman thinks, that the Quarters are too large, and will admit of more; there are ſome Deſigns in the foregoing Part of this Book, that will ſuit it; many may be collected out of Mr. *James*'s Book; and ſtill more may be contriv'd by our Skilful and Ingenious Draughts-men, or Planometrians; it is much more to my purpoſe, that I purſue the main intent of this Deſign, and ſpeak more largely to the exterior Part of this Deſign; which, I may venture to affirm, will afford as much Variety and Speculation, as any thing yet deſign'd, in the Way of Gardening.

Of all the Lines that a Deſigner ought to uſe,

uſe in natural Gard'ning, the looſe Serpentine Line ſeem to be the moſt entertaining; becauſe thereby the Owner does not ſee all his buſineſs at once, but is inſenſibly led from one Place to another, and from a Lawn to a Hill, or a Dale, which he is not apt to perceive, till he is juſt upon it; this I have made great uſe of; but not ſo much to be offenſive, by this means. The Perſon that Walks over this Eſtate in a Corn field, ſometimes in a little Thicket of Wood, and ſometimes in a plain twirling about, and paſſing thro' all theſe Beauties, which ſurprizingly ſucceed each other, while at the ſame time thoſe Encloſures, and little Fields of Corn, Paſture, *&c.* are in the middle, and divided thereby.

But this Winding, and twiſting of the Lines, both upon the main Levels, and on the brows of the Hill, has an unſpeakable effect on theſe Valleys, and riſing Theatres of Wood on each ſide, involv'd, as they will appear one with another.

There is certainly nothing, either in Nature, or Art, that excels ſuch Deſigns and Improvements; and muſt be eſteem'd at leaſt a faint Eſſay, and Copy of the ſublime Thoughts of ancient and modern Poets on this Subject; How ſweetly is *Virgil's* Muſe delighted, with a winding Valley, and a lofty Hill. And when delighted amidſt the Croud of rural and happy Thoughts, even till he was quite ſatiated, makes theſe his *Aſylon*,

ylon, and laſt Retreat! How ſweet would *Boilieau*, or a *Dryden*, have turned their Song! And how wou'd *Cowley* have been delighted, in ſuch rural Scenes, as a Deſign of this kind would have preſented him with.

But to take too much delight here, how pleaſant ſoever the thoughts may be, 'tis in theſe direct Circular and Serpentine Lines that the Mind is pleaſingly carried forwards and backwards; and while in one Place a Valley preſents it ſelf; then likewiſe Hills, Baſons of Water, and Fiſh Ponds, and little Glades cut down to ſhew for Caſcades, if Plenty of Water.

In ſhort, the whole Deſign is eaſier ſeen, by this imperfect Draft of it, than expreſs'd, and will, beſides it uſe, I hope, ſtill encreaſe upon the Minds of thoſe, that pleaſe to Peruſe it, and put it into Practiſe.

It is eaſy to ſee, that all the Encloſures in the upper Part lie encompaſſed by thoſe Serpentine Walks; and ſo likewiſe is the Meadow in the Bottom, where a Walk of Gravel is carried round at the bottom of the Hill, and little Ditches of about ſix Foot wide, to carry off the back Waters, and to bring round a Part of the main Stream, which runs in the middle. And it is a doubtful Point, whether in ſuch a Caſe one would not fill up the River in the middle, and divide the Stream on each ſide, for the fencing in of the Meadow, from Cattle that feed on the Hill, and for ſaving

ving that tract of Ground, that is left there; beſides the Stream running exactly under the Hill, is very beautiful and conformable to the Songs, of the ancient, and beſt of our modern Poets. To this we may add, that it is always ſhady and cool in one ſide or other, even in the middle of the hotteſt Sultry Day.

And theſe Ditches will likewiſe divide the Meadows, into ſo many Parts and Lots, that it will be alſo uſeful in the keeping, and feeding of Cattle ſeparately, and will be no diſadvantage to the Graſs, deſign'd for Hay.

If any Body is ſo frugal, as to object, that the Walks and Coppices in this Deſign take up a great deal of Ground, it cannot be denied that there is ſomething of Truth in it; but not ſo much, as appears by this Draught, the Scale whereof is ſo ſmall, that the Walks and Hedge-Rows could not be ſhown, but by making them wider than in Reality they need to be; and this conſiderably leſſens the Quantity of Land in the Inſide; for, whereas theſe Walks and Hedge-Rows are moſt of them forty or fifty Foot wide, there is no Occaſion to have any Hedge-Row, Walk and all, above 24 Foot, (*viz.*) eight the Walk, and eight the Hedge-Row, on each ſide; and as for others, where there is no Hedge-Row, but only Lines of Trees, and Dwarf Buſhes between them

them (as has been already deſcribed) to maintain the Hedge Line; there ſixteen Foot is a ſufficient Width between Hedge and Hedge, or Stoup and Rail, and Stoup and Rail, (*viz.*) eight Foot Walk, and four Foot on each ſide, for the Verge, and Trees; but this is directed already, as is alſo the more particular method of laying out, and dividing this Eſtate into rural and extenſive Garden.

And by it is ſeen how much Profit and Pleaſure may be mix'd together; and that this Deſign of above 300 Acres may be made as pleaſant as, or pleaſanter than any.

And, however, there are many of my Profeſſion, that will, I am very well aware, Carp and Quarrel with this Book, becauſe they will, I ſuppoſe, think that the Griſt, as it is commonly call'd, will fall ſhort at their Mill, in the vending and diſpoſing of their Trees, and Plants; yet I hope the Publick will Reap ſome Benefit and Pleaſure hereby. The Ancient *Villa's* and Poſſeſſions of the *Greeks* and *Romans* were undoubtedly of this kind, in which they ſpent the happieſt of their Moments, and Reap'd not a little Advantage thereby; in thoſe early Days of Innocence and Antique Virtue.

By this every one may diſcover how happy

happy he may make himſelf, in his rural *Villa*, thus order'd, and diſpos'd; if to this be likewiſe added the Profit (as well as Pleaſure) that accrues to him thereby. All which will come in to be conſider'd at the latter End of this Volume.



CHAP. VIII.



CHAP. VIII.

SECTION IX.

A Deſcription of a beautiful Rural Garden.

BEfore I quit my agreeable and entertaining Subject of Deſigns in general, I cannot omit giving a particular Deſcription of a *Rural Garden*, which tho' not equally extenſive, yet perhaps equally beautiful to moſt we have in *England*, notwithſtanding the happy Poſſeſſor bears no higher Character than that of a private Gentleman. *

* *Mr.* Blathwayt's *Gardens at* Durham *near the* Bath *in* Glouceſterſhire.

I have been a great many Pages in treating of Situations, which a Man would always willingly chuſe, tho' it is rarely in his Power: I therefore hope this Deſcription will be the more acceptable, as it contains matter of Fact, and is no way chimerical; and when 'tis conſider'd, that Nature has a greater Share in the Beauties I am proceeding to, than Art; not but very conſiderable Sums have been expended to bring theſe Gardens to that Perfection which I ſome Years ſince ſaw them in, when my Affairs requir'd my Attendance on a Perſon of the firſt Rank at the *Bath*.

To deſcribe the Situation of the Seat in general is a Taſk of Difficulty; the beſt Account I can give of it in a few Words, is, that 'tis a beautiful Irregularity, here a Dale, there a Mount, here a winding Valley, there a purling Stream, *&c.* And indeed the Quantity of Water which abounds here, and plentifully ſupplies the Water-works, is found Fault with by ſome Perſons as an Annoyance to the Houſe, ſeated low; but without conſidering the many large and moſt exquiſite contriv'd Drains erected for its Conveyance to diſtant Ponds.

Some

Some injudicious Perſons likewiſe make an Exception to the Situation of this Seat, not only for its being low and moiſt; but on Account of its being ſurrounded on one Side with Hills, ſo as not to be diſcern'd 'till you come juſt upon it; what ever Fault this may be in the Eſteem of the Generality of Mankind, I ſhall not pretend to determine; but I have this to offer in its Favour, that on your Approach to the Houſe from the Hills, you are at once entertain'd with an infinite Variety of beautiful Proſpects, the ſurprizing Pleaſure whereof would have been in a great Meaſure loſt by a remote anticipating View. And from the other Side of the Houſe, a fine Vale of a conſiderable Extent is diſcover'd even from the firſt Floor, notwithſtanding its being low with Reſpect to the Northern Side, encompaſs'd with aſpiring Mounts.

But as it is not my Buſineſs to engage in a particular Defence of a Gentleman's Choice of Situation, (wherein Fancy always preſides with the greateſt of Men) I ſhall proceed to my particular Deſcription; and herein firſt begin with the *Green-houſe*. To paſs by the Magnificence of the Seat, the *Green-houſe* adjoining to it, is, I think, one of the moſt beautiful and commodious Piles

for its Purpoſe, I ever ſaw; it is near a hundred Foot in Length, and of a proportionable Breadth and Height. The Outſide is built of the fineſt Stone, adorn'd with numerous Columns of the fineſt Architecture, and the main Front neatly ſet off with extenſive Saſh Windows, in Height almoſt from the Bottom to the Top: You aſcend five or ſix magnificent Stone Steps to enter, where you have a large folding Glaſs Door: Underneath are Vaults with Stoves for Fire in the Winter, and Repoſitories of Garden-Tools, and the Top is ſurrounded with Rail and Balliſter, having at proper Diſtances an agreeable Variety of ſmall Statues mixt with Urns, *&c.* And in the Front are various Motto's in large Characters of Gold, very well adapted to ſo noble a Conſervatory.

This *Green-houſe* in the Winter is replete with all Manner of fine Greens, as Oranges, Lemons, Mirtles, *&c.* ſet in the moſt beautiful Order; ſeveral Rows of Scaffolds one above another, are erected for that Purpoſe, on the Topmoſt whereof are plac'd the moſt tender, but largeſt Plants; and the Shrubs, Flowers, *&c.* below, ſo as to make the Figure of a Slope, with Walks between the whole Length, for the Gardener to examine into the Health and State of his numerous Vegetables: The Inſide of the Houſe, if I miſtake

miſtake not, is cas'd with Bricks, which keeps it naturally warm and healthy; there are ſeveral Stoves underneath at convenient Diſtances for Firing, whereby a regular Heat is diffus'd over the whole Houſe, and the Outſide is ſo well guarded with Shutters in the Winter, as to diſdain the Fury of the moſt penetrating Winds.

The Saſhes being very large, eſpecially at the Eaſt End, by a prudential diſplaying of them in the Spring, inures the Greens to the Air ſo as to prepare them for a Removal to the Parterre; and when moſt of the hardieſt Plants are expos'd Abroad, it is uſual here to preſerve two or three Rows of Oranges, *&c.* the Length of the Houſe, which make moſt beautiful and fragrant Walks within Doors; and the whole Houſe is white-waſh'd, and hung round with the moſt entertaining Maps, Sculptures, *&c.* And furniſh'd with fine Chairs of Cane for the Summer.

When you quit the *Green-houſe*, at the Foot of the Steps are plac'd two prodigious large and fine Aloes, which with their prickly, bulky Arms, high extended, appear like Giants to defend the Entrance of the Conſervatory: Turning to the left you find a ſpacious Pavement Walk, the whole Length

of the Front of the Houſe and *Green-houſe*, at each End whereof are Paintings in Niches repreſenting Statues.

To this Pavement in the Summer are carry'd Orange-Trees, Lemons, round-headed Bays, *&c.* in Tubs, and plac'd in Rows, ſo as to make a moſt delightful Walk before the whole Front, which is continu'd on the left againſt the Side of a Terrace-Walk, to the upper Part of the firſt Parterre: The Parterre is cut into four Quarters of Graſs and Gravel, of various Forms, the Borders adjoining to the principal Gravel Walk, leading to the main Door of the Front, being ſet off with large Pyramid Silver Hollies, Ews, *&c.* having painted Iron Rods with gilded Nobs for their Support, and the Center-Sides, *&c.* with round-headed Laurels exactly clipt, Bays, ſmall Pyramid Ews, *&c.*

Facing the Front of the *Green-houſe* is a running Canal of clear Water, about a hundred Yards in Length; at the upper End, in an enlarg'd Circle, with a high Head of fine Stone, is a Fountain which caſts Water above ſixty Foot in Height, and great Variety of ſmall Pipes playing all round, which entirely fill the Circle or Head of the Canal. In this Canal ſeveral Sorts of Fiſh are con-

fin'd,

fin'd, as Trout, Perch, Carp, *&c.* of a very large Size, and tho' it is deep, yet the Water is ſo tranſparent that you may eaſily diſcover the ſcalely Reſidents, even thoſe of the ſmalleſt Dimenſions: And this Canal is ſo very much freqented in the Summer, that the Fiſh will not be diſturb'd at your Approach; but are almoſt as tame as the Swans, (two whereof continually waft themſelves with Grandeur in this Canal) which will not ſcruple to take an uncommon Feeding from your Hands.

The Situation of the Canal is lower than the Parterre before the Body of the Houſe, ſeparated with Walls; that on the Left making the Parterre a Terrace, and that on the right dividing the Garden from the Park; ſo that it is as it were a private Garden of it ſelf, and indeed is a moſt pleaſant one in a hot Seaſon: In the Walls on each Side are ſeveral Falls of Water, from Pipes and Monſters Heads to Baſons, from one Baſon to another, which at laſt empty into Streams appearing like Brooks, and theſe diſcharge themſelves into the Canal: One of the Walls is fill'd with Fruit-Trees, and the other (the higheſt) with Ever-Greens; and of each Side the Canal are Walks of Bays, Philireas, *&c.* in Tubs, and two very large Silver Hollies at the End to grace the Entrance.

The Wall of the Canal is cover'd with a Coping of fine Free Stone, and ſo are all the Walls belonging to theſe Gardens. At the upper End of it are about half a dozen Stone Steps, which lead you to the ſecond Parterre: This Parterre is of the whole Breadth of the Garden, and is finely adorn'd with round-headed Standard Laurels, pyramid Ews, *&c.* with Iron Rods and gilded Nobs; and the two Quarters of it, on each Side the large Walk leading to the Front-Door, are during the Summer ſet off with Oranges in Tubs, *&c.* in the Nature of an Orangery: Oppoſite to the Canal, is an Octagon Fountain of a conſiderable Extent, the Pipe in the Middle throws a large Stream of Water a very great Height; and round it there are eight large Caſes or Heads facing each Side of the Octagon, with a Multitude of ſmall Pipes very cloſe together, which when play'd, make a very good Repreſentation of Pillars of Water.

The End of this Parterre is fenc'd in from the Park with curious Iron Work, on Dwarf-Walls; and on Pillars between the Spikes are fix'd Variety of Heads carv'd out of fine Stone; here's a large Iron Gate beautifully Wrought, and finely painted and gilded, which lets you into the Park; after you have

have paſs'd about twenty Yards on a Gravel Walk in the Park, you come to a noble Cataract or extended Caſcade of Water; this Caſcade is on a Line with the Octogon Fountain, and the Canal, and all exactly fronting the Door of the *Green-houſe*; it has, as I remember, near two hundred and fifty Steps to the Top, and as many Falls for the Water to deſcend, and it is ſo high, that you have ſeveral Seats erected for Reſting. At the Bottom there is a large Oval Pond with a Fountain in it; at the Top there is likewiſe the ſame, and in the Middle a large and lofty Pedeſtal, ſupporting a Neptune cut out in Stone, of large Dimenſions, with an exalted Trident in his Hand; a Whale is repreſented between his Legs, diſcharging a great Quantity of Water into Baſons on the Heads of Tritons, from whence it falls large Sheets to the Pond.

At regular Diſtances are plac'd ſeveral ſmall Pipes or Fountains to the Top of the Cataract, on the Steps which facilitate the Deſcent of the Water; theſe Pipes, when they play, ſeem a Slope-Walk of Fountains; and when the Cataract plays at the ſame Time, the Weight of the Water, and the Falls are ſo great, that the Noiſe very near equals the Billows of a raging Sea, and may be heard at a very great Diſtance: At the

the Bottom of the Steps are planted two Thorns encompaſs'd with Seats, which are arriv'd to a large Stature, and being kept of a round regular Form with frequent Clippings, make a very good Figure: There are ſmall Pipes which twine round the Bodies of theſe Trees, and appear more like Ivy on the rough Bark, (being painted Green) than leaden Pipes, which on the Turn of a Cock diſcharge Water from a vaſt Number of ſmall Noſils in the Head of the Trees, all round as natural as if it rain'd; and in a cloudy Day I have been inform'd, Spectators ſetting down here to reſt themſelves, the more theſe Pipes have play'd, the cloſer they have embrac'd the Tree for Shelter, ſuppoſing it had really rain'd, 'till the Gardener has convinc'd them of their Error, after they had partaken of a ſufficient Sprinkling to imprint in their Memories the pleaſurable Miſtake.

Between this Hill, which gives the Situation for the Cataract, and a Hill in the Park, you have a fine winding Valley of about half a Mile in Length, planted with Horſe-Cheſnuts; at the upper End is a fine Brake of Wood on the one Side, and on the other a large ſquare Pond; from this Pond a ſmall Channel is cut for the Water, which after a great many Falls from Caſcades, at Length enters another Pond, ſo that you are never

out

out of the agreeable Noiſe of a murmuring Stream. Near this Pond, at the Entrance of the Cheſnut-Walk, is likewiſe a third Pond, of a large Extent, having in the Middle a very fine Statue and Fountain.

From hence you come back to the Garden, and mount the Terras-Walks, which are ſeveral, one above another, and very beautiful; the firſt adjoins to the North Side of the Houſe, ſo that you come from a Cloſet, one Pair of Stairs, immediately out upon it; and at the End of this, in the Middle of a ſmall Slope-Garden, enclos'd with a lofty Hedge on one Side, and a high Wall on the other, is a ſmall Statue repreſenting *Iris*, from which a Fountain plays, and fills all that Quarter with ſeeming Rain, to the very great Refreſhment of thoſe Perſons who frequent the Rooms facing it in a ſcorching Seaſon: But to return to the Terras's; there are four in Number of a good Length one above another before you arrive at the Top, at the Ends of which you have a Wall to ſeparate them from the Church-yard, beautify'd with fine Paintings in Niches; except it be in one of the broadeſt, where you have a moſt commodious Summer-Houſe, anſwering to a Pigeon-Houſe on t'other Side in the Park. You aſcend theſe Terras-Walks on large ſquare Stone Steps, 'till you come near the Top, when

when you arrive at very grand and magnificent Steps, cut out in the Form of a half Circle.

When you have aſcended theſe Terras's, the firſt Thing which offers to your Sight, is a large Stone Statue on a handſome Pedeſtal, near a Wilderneſs, and a fine Fountain with plenty of Fiſh, on Ground of a more exalted Elevation than the Top of the Houſe; from thence you proceed to two Noble Terras-Walks, each above a quarter of a Mile in Length, one for the moſt Part enclos'd with a very lofty Hedge, kept ſhorn, and a Wall with Fruit-Trees, making it a ſolitary Walk, and the other open and expos'd; but planted on one Side with round headed Dwarf Elms, and Firs, and Iron Rails on the other: From this Terras you have a proſpect from you of about eight or ten Miles over a rich and fertile Vale, which, by Variety of Woods, Groves, and Meadows, appears like a *Rural Garden* to this ſtately Manſion. Here you have in View the Avenue to the Houſe, which is full of ſtately Plantations, and to which you have a regular Deſcent or Slope planted with Dwarf Fruit-Trees. On the other Side of the grand Avenue are two very large Ponds, almoſt cover'd with Water-Fowl, and a noble *Dutch* Fountain between, having ſmall Seats

Seats and Arbours all round, and Falls of Water, which make the Figure of a Pyramid, by deſcending from one Baſon to another: In the Court-Yard before the Houſe are two large Pedeſtals with Sphynxes, finely carv'd, and the Stew-Pond; on one Side is the Orchard, and at the End is the Kitchen-Garden.

As you proeeed on the Terras Walk, you meet with Niches and Falls of Water, and likewiſe a Fountain in the Middle; and towards the End you are agreeably ſurpriz'd with a Flower-Garden on a Slope, to which you are let thro' the Hedge by an undiſcover'd Gap; when you come to the End of the Terras, your Proſpect is ſo far enlarg'd, that you ſee *Welch* Mountains thirty or forty Miles diſtant: Here you have large arch'd Seats, on which are painted Motto's ſuitable to their Situation, and a pleaſant little Garden laid out into Gravel-Walks, Graſs-Plats, *&c.* from hence you advance to a Mount conſiderably higher ſtill, in the Middle of a Warren; on the Top of which is a large Seat, call'd a *Windſor* Seat, which is contriv'd to turn round any Way, either for the Advantage of Proſpect, or to avoid the Inconveniencies of Wind, the Sun, *&c.* Here 'tis you have a moſt entertaining Proſpect

all

all round, and you ſee into ſeveral Counties of *England*, as well as into *Wales*.

From this Seat you deſcend again to a flouriſhing Wilderneſs, on an eaſy Slope, cut out into the utmoſt Variety of Walks, eſpecially ſolitary Walks, and beautify'd with Statues: In the Middle there is a delightful ſquare Garden, having four large Seats at the Corners, and a Seat round an aſpiring Fir-Tree in the Center, from whence your Proſpect terminates in a large old Church, at a very great Diſtance. I never in my whole Life did ſee ſo agreeable a Place for the ſublimeſt Studies, as this is in the Summer, and here are ſmall Deſks erected in Seats for that Purpoſe. On one Side you aſcend ſeveral Graſs-Steps, and come to an artificial Mount, whereon is a large ſpreading Tree, with a Vane at the Top, and a Seat encloſing it, commanding a moſt agreeable and entire Proſpect of the Vale below; from hence you come down to a very magnificent Arbour, with the Convenience of Water-Works to play round it. Oppoſite in the Park, on a Hill of equal Elevation, is an Arbour every Way anſwering this, and compleats the Regularity: From hence you aſcend the Mount again, and go by the Lodge and a large Nurſery of Trees into the Park, where,

on

on a Hill almoſt as high as any I have deſcrib'd, is the Spring Head and the Pond, which ſupplies the Water-Works: It takes up near an Acre of Ground, and at the Head is eighteen or twenty Foot deep; it has an Iſland in the Middle planted with Trees, contains Variety of the fineſt Water-Fowl, is well ſtock'd with moſt Sorts of Fiſh; and here you may ſail in a Ship on a Mountain.



CHAP.

CHAP. I.

SECTION I.

INTRODUCTION,

OF THE

Management and Improvement of arable Land.

THE foregoing Chapters of these Volumes relating entirely to the Distribution of Country Seats into rural and extensive Gardens, *&c.* it seems requisite for me to compleat them, in shewing how these several Parts are best to be manag'd and improv'd, in Order to answer the Care and Expence, the Owner is suppos'd to be at in this matter. I shall, therefore, in this Part of my Work stick

chiefly to the exterior Parts of our Design, and reserve the interior Parts, as Flower, Kitchen, and Fruit Gardens, for the Close of my whole Design in this general System of Agriculture and Gardening.

But, before I proceed to this, I must observe, that the Method I have taken is different from that obsery'd by those that have gone before me; and the Truth is, Husbandry is so very much improv'd, since many or most of those Tracts were written, that they would have afforded me little Assistance, and for that Reason I have consulted them very little, or no otherwise, than to avoid the Method they have taken; but have drawn these Papers together from my own Observations, and the present Practice of our best Husbandmen and Gardeners, collected as they have been by my own Labour and Pains in my Passage thro' the best Countries for Husbandry in this Kingdom.

And, that I might make them still the more useful and intelligible to the Gentleman and Gardener, I have endeavour'd to assign the natural Reason of Things to every Precept, which will undoubtedly make the greater Impression on the Mind, and all Practitioners will have the clearer Idea of what they are in every Respect to do, for (as is already hinted in the first Volume) it is in Gardening and all other ingenious Amusements, as it is in Theology, Philosophy, &c.

wherein

wherein one Theme that is cleared by natural and rational Arguments (when agreeable to the Judgment of great Men) makes more Impreſſion on the Mind, than many poſitive Precepts, which too often (to uſe the common Expreſſion) go in at one Ear, and out at the other; but when the Nature and Reaſon of the matter is clearly made out, the Judgment is ſoon fix'd with Delight, and the Matter retain'd as long as Life it ſelf, or Memory is perfect or laſting.

Thus, I have not thought it ſufficient to ſay poſitively, that ſuch and ſuch Compoſures of Earth, Dung, or other Improvements are proper for ſuch and ſuch Lands; but have from as plain Arguments, as the Nature of the Matter would bear, and to the beſt of my own Underſtanding demonſtrated why it is ſo, and have endeavour'd to ſhew the Methods, by which Nature works its Effects.

And, that I might proceed the better, I have firſt ſaid ſomething preparatory to the Improvement of Lands by ploughing them; the Nature of all or moſt of the Sorts of Land we abound with here in *England*, and their Improvements by Dung, or other Compoſts, and by ſowing of Graſs-ſeed, *&c.* And, to finiſh all, added the particular Uſes and Virtues of all Sorts of Compoſt, abſtractedly conſider'd with a Treatiſe of Seeds and Grain, that are to be ſow'd in theſe our rural Plan-

tations and *Villa*'s, both for Profit and Pleasure.

This being premis'd, as the general Design of this Chapter; let us now in Pursuance of our Design, inquire into the Nature of the several Improvements we now make use of in *England* for our Lands, whether Natural, or Artificial. By Natural I would be understood to mean the simple Methods of Fallowing, Folding, and Dunging; and by Artificial, the several Composures of Earth, Dung, and, which is still more surprizing, the Help that Lands receive from Grass-seeds and Vegetables. Both of them might be indeed included under one Head, but I purposely divide them for the more Methodical Proceding in this Work.

SECTION II.

Of the Natural Improvements of Land by the Plough, Spade, &c.

THE Original of this is without doubt, coeval with the World it self, being appointed by God Almighty for the Employ of Man after his unhappy Fall, and for the Redress of those Malignities that were inflicted on the Earth (by God's Command) for Man's Disobedience; and this being the first of our natural Methods, I thought fit to

to place it here. And first of Summer Fallowing.

Of Summer Fallowing.

This I call a Natural Way of improving Land, it being effected without the Addition of Artificial Composts, and Nature, with the simple Application of Folding, renews the exhausted Vigour of the Earth, by its being laid fallow all the Summer, where by the Distillation of the Rain and Dews that fall in Summer, and by the Joynt Operation of the Sun, Air, and Rain (but chiefly of the Sun as prime Agent) the Ground is as it were calcin'd; for the Effect that attends all Lands thus fallowed I take to be this, that during the four hot Months, such kind of Lands are expos'd to the continual burning Heat of the Sun, and in some Measure heated as Chalk or Stone is in a Lime Kiln; by which means the Crudities of the Earth are corrected, and the first Rains that comes in *August*, make it fall to a Powder, as Chalk or Lime-stone well burnt does, when Water is thrown thereon, and that in the stiffest and most surly of all our Soils. And, tho' at first Sight, there may be some Reason to think, that during the excessive Heats, that reign in some hot Summers, the Juices and Vital Qualities of the Earth may be thereby exhausted; yet we find the contrary by Ex-

perience, and that the hotteſt Summers are the greateſt Improvers of our fallowed Lands; and from this we may reaſon with our ſelves, that tho' the attractive Power of the Sun does undoubtedly draw up a conſiderable Quantity of thoſe Juices, yet there is an equal, if not a ſuperfluous Dimiſſion of thoſe Vapours again in the Nocturnal Dews, that are generally very great in Summer, eſpecially after an hot Sultry Day; but by the Joint Operation of the Sun, Dews, *&c.* together with the Ventilations of the Air, the Earth is ſweetened, the Crudities thereof exhauſted, or expell'd; and, by being burnt, and crumbled into Duſt, as it were, receives with the greateſt Eaſe the refreſhing Diſtillations of the Clouds in the Autumn (and, if I may ſo call it, by the happieſt Coition imaginable) impregnates the Womb of the Earth, and fits it for its beſt Productions: And this is the Reaſon that our beſt Floriſts now chuſe fallow'd Land, thus managed, before the moſt elaborate and choiceſt Artificial Compoſures for their fineſt Flowers; and will teach all that make heaps for that or any other choice Exoticks or other Plants, that 'tis not Dung that does their Work, but a proper Earth well ventilated and calcin'd; and will ſtill farther inſtruct them, that have not the Convenience of coming to good fallowed Land, to ſpread the Earth for their Flowers very thin on the Ground,

in

in ſome waſte ſaving Place all the Summer Months, to correct and ſweeten it, as aforeſaid; and that 'tis not the Quantity of Groſs, but the Quality of the moſt refined Juice, that is moſt proper for the Productions of Nature. But I am inſenſibly carried into the Garden, I therefore return to obſerve, that this Way of fallowing is more particularly beneficial to all lumpy, heavy Lands; and thoſe Perſons that have a great deal of that Work to do, ſhould firſt begin on their coldeſt, heavieſt Lands, and afterwards proceed to thoſe that are lighter; and, indeed, whereas cold heavy Lands ſhould be thus expos'd for three or four Months, half the Time will ſerve for lighter, and ſome Earths are by Nature ſo tractable, that they require no fallowing at all.

It may be thought, that what I have been here advancing, may contradict what I have ſaid in the firſt Volume, in relation to the mixing and ſpreading of Dung and Compoſt over Lands, becauſe the Sun is apt to exhale the Juices thereof; but my Arguments on this Subject, relate chiefly to ſtrong Lands; and, as for Mixtures, or Dung, ſimply conſidered, ſuch an Expoſure would be very prejudicial, becauſe the Contexture of the Earth is ſuch, that it will not retain the Juice ſo well as ſtrong Land will, and will be, by the attractive Heat of the Sun, very much emaciated or dried up, notwithſtanding the nocturnal Di-

miſſion of Dews, *&c.* And I have the Authority of my Lord *Verulam* on my ſide in this Matter (*pag.* 145. *Of his Natural Hiſtory*) where he adviſeth the not ſpreading Dung and Compoſt over Lands, till juſt before they are ploughed. I have been the more particular on this, becauſe I have obſerv'd, the Farmers in many Countries ſpread it, or, at leaſt, lay it in little ſmall heaps on their Fields, perhaps five or ten Weeks before they plough it in; but this will be more proper to ſpeak to hereafter.

It would be needleſs for me to ſay much as to the Inſtruments with which this Work is done, as Ploughs and other Utenſils, they being already well known to moſt Ruſticks; and, beſides, the ſame is already done to my Hand by Mr. *Mortimer* in his laborious *Collections on Husbandry*.

SECTION III.

Of Winter Fallowing.

THE next Natural Improvement I ſhall mention is Winter-Fallowing, which in cold, heavy Lands, is as eſſential as the Summer Fallow, and the Reſult is much the ſame; the Sharpneſs of the Air in a froſty Winter meliorating the Ground, as much as the

the intenſe Heat of the Sun in Summer. This ſort of Work is of mighty Advantage to all Sorts of arable Lands, becauſe it ſweetens the Earth, kills the Weeds; and Land thus plough'd up and laid fallow all the Winter, is ready for any kind of Spring Crop: But in cold, heavy Lands it is certainly the worſt of Husbandry to omit it; (tho' we ſee it too often) and this is the reaſon why all good Husbandmen in the Wood-land Countries, where the Ground is ſtrong, lay their Ground they deſign the next Year, for Barley, or any other Spring Crop, Fallow: And to look a little while into our Gardens, we ſee all good Gardeners, as ſoon as *Michaelmas* is turn'd, trenching their Ground, and laying it in Ridges (the Method of doing which, is taught in the firſt Volume) for it is not only of great Advantage to the Ground, but it lies likewiſe more ready againſt the Spring, and fitter to receive what Seed we intend to ſow upon it; and, as our Country Men phraſe it, it Ploughs, Harrows, and Rakes a great deal the better for it. The Country Farmer ſhould, then, as ſoon as his Crop of Wheat is off, and the Herbage a little cut down (*viz.*) as ſoon as Harveſt and Wheat ſowing is over, conſider what ſtiff Land he has, that he intends to ſow in the Spring, and plough it up, but in as rough a manner as he pleaſes. The Froſt in the Winter will pierce the greateſt Horſe-headed Lumps his Plough can throw up, and

will,

will, before Spring, reduce it into the fineſt Duſt or Mold, whereby it will be ſow'd, and harrowed with more eaſe, and is thereby in the faireſt way of yielding a bountiful Encreaſe.

Before I go any farther, 'tis requiſite I ſhould mention ſome of the Sorts of Ploughing in uſe with us in Lands of different Contextures. Of Plough-trenching, I have already ſpoke, in the Choice of Soils in the beginning of this Book. Rafter Ploughing and Sowing under Furrow, is what needs ſome Explanation, there being little ſaid of it in any of our Ruſtick Authors; the firſt is us'd in Lands, after they are burnt baked, as our Farmers term it, where they ſet their Iron pretty ſhallow, and plough one Furrow, and leave another whole: For, ſay they, ſhould we plough our Ground throughly, the Aſhes, which are the Spirit and Life of our Ground, would be all buried, and the Ground itſelf be uſeleſs, and never the better for Baking; whereas this alternate Ploughing and Harrowing afterwards mixes the Earth and Aſhes together, and they are not buried as in the other common ways of Ploughing they infallibly muſt be. Ploughing and Sowing under Furrow is where the Ground is very light, and ſandy, and that the Corn requires to be well cover'd, and this is uſual in ſuch Lands in Peaſe, and Oats, and ſometimes even Barley and Wheat. But, to proceed

ceed, to heavy Lands, let us take a ſhort View how the Diſſolution of them is effected. We muſt obſerve, that next to Heat, (nay, I may ſay, equal to Heat) there is nothing more piercing than Air in a clear froſty Night, and therefore it is no wonder, if it works the ſame Effects as Heat does; for, 'tis very certain, that Heat, and Cold have a virtual Tranſition without Communication of their Subſtances (in every thing but Plants and Animals) in Relation to each other, and that the Air cauſes this Diſſolution purely of itſelf (at leaſt with very little aſſiſtance from Heat and Moiſture) condens'd and frozen firſt, and afterwards relax'd by its own genial Warmth, with none, or very little, help from the Sun: And it is obſervable, that the drier and finer the Air is (as is the caſe of clear froſty Weather) the more ſubtle and perſpiring it is. I have already in the firſt Volume ſaid ſomewhat of the husky piercing Winds in *March*, and how prejudicial they are to the milky emulgent Fibres of a newly planted Tree, which will ſufficiently convince any Perſon that takes notice of it, how deep Air will penetrate into the Earth; and, tho' this pure refined froſty Air we are ſpeaking of be not ſo piercing as that dry husky Air is, yet it is much more natural, as being firſt much finer, and beſides actuating with much more Moderation; for whoever examines the Origin and Violence

of

of *March* Winds, will find them to be owing to a more violent Cauſe than pure froſty Air is; but, to take our leave of this ſtrict Enquiry, leaſt it lead us too far out of the way, 'tis by means of this open Expoſure in the Winter, that our moſt ſurly Lands are corrected, and it therefore keeps the Husbandman under the greateſt Neceſſity of uſing his Ground after this manner; and both of theſe Fallowings are of that Benefit in Gardens and Plantations, that the Directions relating thereto, ought to be writ in Characters of Gold, for that 'tis the common Method that is taken of breaking up Ground and planting it immediately, that occaſions very much of the ill Succeſs of Planting and Gardening, as well as Husbandry; the Earth being oft times (I might ſay always) ſour and undigeſted; and no wonder if the new planted Tree, or new ſow'd Seed does not thrive, but if he doe ſtrike Root at all, looks in a very ſtarving Condition, and 'tis ten to one if ever he makes a good Tree, except the Ground be naturally very good, which does not generally happen.

Let that Perſon, therefore, that has a mind to plant or to ſow either Maſt or Corn, or to plant large Trees, conſider what time of the Year he intends to do it; if at *Michaelmas*, or ſome little time after, then plough the Ground, or prepare the Holes wherein his Trees are to ſtand in, *viz.* the latter end of

April,

April, or the beginning of *May*, or, indeed, any part of that Month will do: Thus let it lie all the Summer, but if it be in heaps of Earth, and lies thick, turn it as often as you can.

In like manner, if you are to ſow or plant in the Spring, uſe the ſame Method, be it either for Foreſt Trees, Acorns, Corn, or any other Garden-like, and Foreſt Improvements. For to conclude this View, this Expoſure, does not only diſſolve the Lumpyneſs of the Earth, and correct the Sourneſs and Crudity thereof, but (as all Philoſophers own) there is both in the Sun and Air a nitrous and ſulphurous Matter, which is of particular Ailment in the Growth and Encreaſe of Vegetables, Trees, *&c.* And this is very diſcoverable both in ſappy, juicy, or ſucculent Plants, call them which you will; that tho' they are out of the Earth, by the help of Air and Sun only will for ſome conſiderable time grow and ſprout, ſuch are Onions tyed up to a Stick, *&c.* and amongſt the Exotics, the Aloes, Cereus's, *&c.* which, notwithſtanding their being out of the Earth, readily obey the Dictates of Nature, and if they have Air or Heat, ſprout out and grow.

CHAP.

CHAP. II.

SECTION IV.

Of Earths and their Improvement.

IT will not be expected, I presume, that I should in this Explication of Earths and their Improvements, run into the many Divisions and Characteristicks of Earth, but only stick close to those that this Country commonly abounds in, be they Sands, Clays, or other black Pasture and arable Lands, compounded of Loame and Sand; of Sand and Loame, or of Clays mix'd with either, as they were temper'd or fram'd, and as they are to be found promiscuously scatter'd and dispos'd, by the great Author of the Universe in the Formation of the World (or as they were confusedly hurl'd together, by the violent Agitation of the Waters in the universal Deluge.)

But, before I proceed to the several Kinds of Earth wherewith we abound, it will be necessary I should define the natural good Qualities thereof, and how they are discoverable by sight, smell, and touch; but above all, and that which few of our most elaborate Chymists

Chymists have toucht upon, its Weight, is as sure Indication of its Goodness, as any of the afore-mentioned, as containing therein great quantity of Nitre, and other solid Materials that give it Ligature and Ponderosity, and render it fit for the Production of Corn, Trees, Plants, and other Vegetables of all Sorts, useful for human Life, or the Refreshments of it, and first by sight.

I can't think it sufficient to believe, with some of the Antients, that blackish Grounds are Cold and Dry; for where-ever there is mixture of Sand, the contrary evidently appears: Or that all hot and choleric Grounds are red or brown; that cold and moist are always whitish, or hot, and moist, ruddy. These participate of these several Qualities, as they are more or less mix'd with a sandy, gravelly, or arenacious, or on the contrary with heavy and clayey, lumpy, or sluggish Materials; or as they are many times tinctured and discoloured by standing Water, or Rains, by Exhalations from Minerals, the heat of the Sun, or other Accidents; Molds of a lively Chesnut are the best, of which Colour are the best Loames, and also the best natural Earths; next that, dark Grays and Russet: the light and dark Ash Colour are the very worst, being such as are found on common heathy Ground: The clear Tawny is by no means commendable, but the yellowish Red is the worst of all, as they are

like-

likewiſe found in the wild and waſte Parts of the Country, and generally produce nothing but Gorze, Furze, or Fern, as their Bottoms are more or leſs of a light and ſandy, or of a ſpewy Gravel or clayey Nature.

All good and wholſome Lands will likewiſe after Rain, or the breaking up by the Spade or Plough, emit a good Smell, ſo, that 'tis well known our Phyſitians recommend it as conducive to Health, and to the recovery of Strength to Conſumptive Bodies: On the contrary (for I have particularly try'd in the Fens of *Lincolnſhire*) when you break up any of thoſe Grounds, where the Waters are ſtagnated, there will come forth ſuch a Stench, as one is hardly able to bear; but Earth likewiſe receives this badneſs of Smell from ſome Mineral or Metallic Quality, that lies in the ſubſiding Beds and Strata of the Earth, and are drawn up by the attractive Power of the Sun. And we may generally obſerve, 'tis in theſe Places, Wood Timber, or even our ſmaller Herbage and Vegetables never flouriſh to any degree of Perfection. There may be many other Cauſes of the ill Scent and Diſcolour of Earths, as where theſe Mineral, Metallic, or Stagnated Waters, by means of their ſuperiour Level and Verticity, break out and expend themſelves quite thro' the Neighbourhood, tainting the Earth where-ever it paſſes, and leaving behind thoſe diſmal Marks of Sterility

Sterility and Diſcolour: By breaking up and ſwelling to the Earth, we may then judge of its Qualities, and by carrying of thoſe Springs by Drains, *&c.* and expoſing the Earth it ſelf to the Ventilations and other Emundations of the Sun and Air, it may in time be ſweetned and ſtript of thoſe unwholſome Effluvia, that render it loathſome to the Animal, as well as Vegetable Part of the Creation.

Another Proof of good Mold, is by the touch, or handling, by which we diſcover whether it conſiſts of Subſtances, entirely arenaceous, or clammy; or, as Mr. *Evelyn* expreſſes it, whether it be tenera, fatty, deterſive, or ſlippery, or more harſh, gritty, porous, or friable; that being always beſt, which is between the two Extreams, and not containing the two different Qualities of ſoft and hard mix'd, of churliſh and mild, of moiſt and dry; not too unctuous nor too lean, but ſuch as will eaſily diſſolve, of a juſt Conſiſtence between Sand and Clay, and ſuch as will not ſtick to the Spade or Fingers upon every flaſh of Rain. In a Word, as Mr. *Evelyn* has it, that is the beſt Earth in all Senſes, that is of a blackiſh Gray (or I rather affirm, a lively Cheſnut, or Hazel Colour) cuts like Butter, ſticks not obſtinately, but is ſhort, tolerably light, breaking into ſmall Clods, is ſweet, will be temper'd without cruſting,

or chapping in dry Weather, or turning to Mortar in wet.

As for the ſeveral Parts of which Earth is compos'd (I mean thoſe relating to Vegetation) 'tis certain they are but few; the Earth ſtript of its fertile Principles, being no other than the Bed or Couch, wherein they lie after their firſt Lodgment and Impregnation, ſince 'tis apparent, that the Earth is not all Salt, Nitre, or call it which you will, but that all abound with it, ſome more, and ſome leſs; and the Earth ſimply conſidered, may be divided into two Parts; that which is gritty, porous and crumbling, that which is viſcous or clammy. And I muſt confeſs my ſelf at a loſs to find how Mr. *Evelyn* ſuppoſes that Clammineſs is an Accidental, rather than a Conſtitutive Part of Earth, ſince the Glutinoſity of Clay does without doubt proceed from the ſame Time and Cauſe, as the looſe arenaceous and porous of Sand; it being thoſe, and only thoſe two Principles, in relation to touch, that properly belong to the Head we are on.

The proper Apellation of thoſe other clear, ſandy, or cryſtalline Parts, which are by all acknowledged to be the Nutritive Parts, when by the Diſtillations of Rain and Water, and by the approach of the Fibres of the Tree, they liquate and run, and are either joyn'd to, or more properly are carried thro' the Interſtices

terſtices and Pores of the Plant, by the Order of Nature, or the attractive Power of the Sun. Mr. *Evelyn* calls it Salt, or Nitre, whilſt Mr. *Woodward* is ſorry he can't ſubſcribe to it; being poſitive from Experience, that Salt and Nitre, are in their own Natures entirely deſtructive to Vegetation: But this Gentleman's Miſtake ſeems to be as to the Quantity that is us'd; whereas, were it to be lightly ſtrow'd over the Ground we ſhould ſoon perceive it give a new Vigour and Ferment to it: On the contrary, it muſt be own'd, that where-ever it is ſpread thick it deſtroys all near it; yet after this, when the Vigour and Heat is abated, and thoſe Principles come to their Original Tone, Vegetables ſpring up much more freely than before; and this is evident to thoſe, who by Pot Aſhes, or Fiery and Nitrous Waters, endeavour to deſtroy Weeds, Worms, *&c.* in their Graſs and Gravel-walks. But, let us ſee how earneſtly Mr. *Evelyn* contends for this Application; the Salts (ſays he) entice the Roots to affect the upper and ſaline Surface of the Earth, upon which the Rains and Dews deſcend.

'Tis Salt which makes all cover'd and long ſhaded Earths fertile, and renders the Dung of Pigeon, Poultry, and other ſalacious Corn-fed Birds ſo eminently effectual.

'Tis Salt that gives ſuch Vigour to Places ſprinkled with Urine, Soot, Aſhes, *&c.*

'Tis Salt which reſuſcitates the dead and mortified Earth, when languiſhing and ſpent by her Indulgence to her Verdant Of-spring, *&c.*

'Tis Salt which renders *Egypt* ſo luxuriouſly fruitful, after the Inundations of the River *Nile*, and the nitrous Grounds of *Jamaica*, and other Places which cauſe ſuch a ſtupendous Growth of Plants and Trees.

This, and much more of this has this ingenious Gentleman urg'd in behalf of this Principle; but I am ſenſible I have digreſs'd a little from the methodical Purſuit of what I propos'd, tho' under thoſe Heads it was proper to ſay ſomething of this likewiſe.

Of the ſeveral Sorts of Earth, &c.

What I next propoſe to inquire into, is the particular Nature of moſt Sorts of Earth, that *England* abounds with, both for the uſe of the Spade and Plough. And here I would premiſe, that one and the ſame kinds of Earth is alter'd in its own Nature, and require more or leſs Culture and Improvement, according to the Nature of the ſubſiding Bodies on which they lye; ſome of theſe being ſuch, as has been bfore-mentioned, as draw off their Juices too faſt, whilſt others are ſo tenacious of Rain, *&c.* as to change their very Conſtitutions, and aſſume the very Natures of

of thoſe that lye under them: Thus do we often ſee Clay turn every thing near it into its own Nature, whilſt Barren, as avaritiouſly devour thoſe Earths, that either Art or Nature has made prolific.

The firſt Kind of Earth that I would ſpeak of, and which indeed in reſpect of its Goodneſs, requires little Help or Improvement, is Loame or Brick Earth; it being ſtrong in its own Nature, and needs little more than the Spade or Plough (either for the Gardener or Husbandman) to bring it into Order and Culture. This is the very beſt of our Wheat Land; and this in all Sorts of Compoſures of Earth, the Gardener or Floriſts eſteems the beſt, as being of a cloſe and Butter-like Contexture, that is, perfect as to ſmell, taſte and handling, and has in ſhort all the good Properties we have lately aſſign'd to good Earth: But this, as is already hinted, requires (except it be where it abounds much with Sand) a Fallowing, and if for Corn, one Years reſt in four or five, and a folding of Sheep to give it new Vigour and Ferment. If you ſow it then with Wheat, it ought to have a Summers Fallow: if with Barley (which is a Spring ſowing) a Winter Fallowing; except it be a mild Loame, and much inclin'd to Sand, which I would more properly call (and ſo I ſhall ſpeak by and by of it) Sand or ſandy Loame, or the very beſt of Sands. To

finish what I have to say on this, I mean as to its Improvement, as it is a sort of Land that requires no Substance, being neither eat up nor emaciated by rough Clays nor barren Lands; its Refreshment, when ever it wants, needs to be only good in Quality; and as to the Quantity, little will serve. Sheeps Dung, or the Folding of Sheep, as is already mention'd, is the most excellent Improvement for it; but in defect of that, since 'tis impossible any Farmer or Husbandman should have enough for all his Land of that sort of Manure, except his Pasture very much exceeds his arable Land, I would therefore propose some Manures, which I have try'd in Gardening, and think the propereſt for the Refreshment of these kind of Lands, which, notwithstanding their natural Heartiness, will yet in time, by over much Ploughing and Sowing waste and decay. Be provided then with a good Magazine or Lestal of Earth, compos'd as follows; three Loads of Lime to one of Coal Ashes; four of clean Horse Dung, one of Sea Sand, if to be procured, or else Sand from the washing of Hills, throw them all together into a Pit, *Stratum* upon *Stratum*; and after they are well rotted and soak'd together, turn them over three or four times, and they will be excellent for the Reinvigoration of this, or any other Tired Land; the Land having then laid Fallow all Summer; a little before Ploughing for the Crop, lay it on

on the Land; 50 or 60 Load on an Acre will be ſufficient, and none need doubt, but this will give due Vigour to it; and, what I would always be glad to be underſtood to mean, when I ſpeak of Improvement of Land, a new Ferment to this Tired Land. There be thoſe that ſcarce ever give theſe kind of Lands any Reſt; but this is too ſevere, ſome of theſe will hold very well four Crops, or perhaps five; but I think no body ought to go beyond this: However, every body may be govern'd by the Strength and Goodneſs of their Land, which is ſometimes better, and ſometimes worſe. The Change of Crops in this Land is likewiſe as requiſite as in others; not only of Seed fetch'd from other Places, but alſo a Change every Year as to its Kind, Wheat, Barley and Oats are what generally follow one another; but even this Method ſhould be alter'd. Since 'tis now allow'd by all, that there are ſeveral Sorts of Juices in one ſort of Land, that every particular Plant aſſumes to it ſelf, and delights in, thus we ſee, after a piece of Ground has bore Wheat one Year, tho' it brought a very good Crop that Year, yet another Year it ſhall be very poor, or at leaſt by no means equal to what it was the Year before; and yet Barley, or any other Grain will be as luxurious and ſtrong, as if there had been no Crop on that Land the Year before; and the next Year, Oats, Vetches, Peaſe, or Beans (if the Ground be naturally ſtrong) and ſo on. Which

ſhows, that tho' the Juices particular to one Sort of Grain be drawn off one Year, yet other Sorts of Grain find ſome likewiſe proper to them, *&c.* what has been ſaid as to the way of Change in Cropping, may be alſo ſaid of Manure, in which a Husbandman ſhould never uſe one and the ſame Method. Let Sheep Folding ſupply for once, the Compoſition before deſcrib'd, and another time the Compoſition of Blood, Urine, *&c.* that will be found elſewhere preſcrib'd, it would be ill Husbandry to turn theſe very good Lands into Graſs. And before I leave this, I would note, that there are ſome Kinds, at firſt breaking up, too rich for Wheat, and ſhould for that reaſon have a Crop of Horſe Beans, and alſo of Peaſe (perhaps the better Kind) to abate their Vigour.

Of the ſame, or near a Kin to theſe, are the richeſt Clays, tho' ſometimes of a more dusky Hue and Colour; for the Chryſtalline and Nitrous Particles, tho' not leſs abounding in this than in the other richer Molds and Loames as to outward Appearance; are yet ſo lock'd up and inveſted in their lumpy and ſurly Beds, which are as ſo many Priſons and Cells, to confine them from the liberty of acting their Parts in the Buſineſs of Vegetation, till they are unlock'd by the intenſe Heat of the Sun in Summer, or

by

by the rigorous Cold of the Winter, ſeconded by Rains and Dews, which relax the Firmneſs of its Parts, and by a natural and eaſy Kind of Calcination, make thoſe Lumps crumble into the fineſt Duſt or Mold.

But there are ſeveral ways to bring theſe ſtiff Grounds to Tillage, ſince when they are firſt broke up out of a common Paſture, or have laid unplough'd for a Year or two; this common Method of Tilling by a Summer or Winter Fallow will not do, the Husbandmen in Part *Buckinghamſhire*, &c. where thoſe Lands are in great Plenty, give them the ordinary Method of fallowing, and then ſow them with Horſe Beans, and in other Parts of *Berkſhire* and *Hampſhire* with Peaſe; and this is a good Method to bring it into Tillage. I ſhall not in this Paragraph ſpeak of many of the very ſurly Clays we meet with in ſeveral Places; ſome of them when they are new broke up, requiring at leaſt three, and ſometimes four Plowings, (*bis Frigora*) two Winters to bring them into Order, this being what I ſhall treat of with their Management and Culture in the next. As for the changes of Corn Manure, *&c.* what was ſpecified in the firſt Diviſion of Earth will be proper in this, without very much Variation, there being little Difference in them, but the Colour both of them abounding with a happy Equality

lity of ſandy Viſcous and Chryſtalline Particles.

We come next to the ſtiffeſt and ſoureſt of our Clays, in which, notwithſtanding the terrible Epithet they carry along with them, are lodg'd great Quantity of Saline Particles, were the Beds in which they lie, with due Labour and ſeaſonable Management, reduc'd into a proper friable Temper; but there is beſides this, a Sourneſs, which is very injurious to Grain, that is, the Natural bad Quality of theſe Kind of Lands; a good Expoſure to the Air does well here, and there are, who to reduce theſe Grounds into Tillage, quickly are for Burning or Devonſhiring them; but this by honeſt painful Husbandmen and thoſe who have a regard to Poſterity, or the real Benefit of their Landlords, is not reckon'd a good way, neither will it hold ſo long, nor carry ſo many Crops as what I am going to advance in its room, and which is the laſt, and ought to be no leſs the Care of every honeſt Man. The grazing Part, when thrown up, will not be ſo good, even tho' it is ſown with Graſs Seeds, which, ſome pretend, will attone for the ſevere Uſage ſuch Ground has met with.

In Countries where Chalk is to be had if it be for reducing into Culture, unplough'd Grounds, or for the Improvement of theſe that have been ſeveral times plough'd, as ſoon as ever Wheat Seaſon is over, and

Teams

Teams at liberty, give a Chalking, and a Winter Fallow; no matter which of them you do first; tho' perhaps Ploughing may be best, because Chalking may be done in frosty Weather, when Ploughing can't: Here let it lie as rough as you please for the Winter, to mollify the Clods, and to help and reduce the Chalk Stones. And here I must remark, that the Chalking of any Land, is better at *Michaelmas* than in the Spring Quarter; for the Dryness of the Summer, is apt to set the Chalk so hard, that it will not easily dissolve. This way of Chalking, is, however, an excellent Manure for all sour, surly Lands, nothing in Nature of Improvements being sweeter; and as it is also Heating, it will still add a Warmth to these Kind of Lands. But, to proceed, here let it lie till Spring, at which time plough it cross-ways, and this will tumble and mix the Chalk and Earth together; the Chalk will by the severe Winter Frosts be shaken to pieces, but if it be a violent stubborn Clay, which the Owner may readily perceive, I should not advise his thinking of Planting, or Sowing it this Spring, but let it lie fallow likewise the Summer, lest by endeavouring to crop it (tho' it be with Beans, Pease, Turnips, *&c.*) it return to its first Nature; but if you should think proper to crop, you must Plough it a third time in *March:* However, I rather advise the letting it be low, till the Showers reduce it into a better Temper

per ſtill; and then, if it be not the moſt incorrigible Clay, you may think of it for Beans, *&c.* and the next Year give it Winter Fallow, and ſow it with Barley; after that it will carry Wheat, becauſe then the Chalk will be come to the height of its Improvement: And theſe Lands will alternately carry Crops of different Kinds for five, ſix, or ſeven Years, whereas Burnt-baking will at beſt laſt but three or four. And as throwing up is good for nothing, with the laſt Crop you ſow, may be mix'd Clover, which is an excellent Improvement of thoſe tenacious Lands. I know what I have ſaid on this Head, is a kind of Invective againſt burning of Lands, as it enervates and deſtroys very much of thoſe Juices, which are the proper Aliment and Spirit of Vegetation, and nothing can be ſaid in its Juſtification, but that it brings Land into Tillage much eaſier and cheaper than the other Method does. But in caſe that Chalk can't be had, then a due Expoſure for two Winters and one Summer, at leaſt, muſt ſupply this Defect. During the Courſe of theſe ſix or ſeven Years this Land is kept in Tillage, it ought, above all Things, to be fallowed in the Winter, tho' it cannot be in the Summer (perhaps) leſt it return to its own ſurly Nature; but this I have urg'd elſewhere, as a Method the moſt conducive of all, to the Reduction of theſe Kind of Earths, or Clays. And what will add very much to the good Production of

theſe

these Grounds, will be superficial Dressings (if it can be) of Malt Dust, Wood Ashes, and such other Dressings, which I shall elsewherere commend for being by Nature sluggish and unactive. These Dressings will give it a new Ferment and Activity; and Experience tells us, how much this does that way. The several Changes I have heretofore mention'd, are likewise very proper in this, as well as in other Lands. Grain of different Sorts, procured from different Places, will still have their natural Goodness and Largeness: And in short, these strong Clays, if sown with Wheat or Barley, if they have a Winter fallow, and are superficially cover'd over with any of our Ashes, and other Volatile Compositures and hot Dungs, as Pidgeons, *&c.* will produce in as great Perfection as many other Lands, that appear of a more natural and genuine Constitution. It would be of excellent Advantage to all these Kind of Lands, if in their rough Fallows there could be Quantities enough of Sea Sand, or Coal Ashes, or Pidgeon's Dung; this would so meliorate the lumpish Quality of it, and would fall in with the Ruins of the Lumps, that the Ground would work as fine as any Garden; and 30 or 40 Loads will be sufficient in an Acre of the worst Lands of all; the Fierceness of those Improvements will thus be taken off, and the Ground it self reduc'd to a Flower; for this we see by Experience in our Gardens,

where

where we use them more plentifully than in our Fields.

The next Earths we shall speak of, are Russet Grays, or Pasture, blackish Molds, as they are of a Temper between Loame, Clay and Sand, and are in their own Nature loose, and friable, and need less Culture, (tho' more Manuring) than any of the Foregoing, and these differing in their respective Goodness and Use, as they are higher or lower situated, and as they are more or less advantag'd by Water, which is the greatest Improvement to these Kind of Lands; 'tis on these that Corn is easiest propagated on Up-lands, and 'tis on these that in Lower-lands, as in the Levels, and Hollandish Parts of *Cambridge*, *Lincoln*, and *York shire*, that we have the rich Produces of Lime, Hemp, Coal, *&c.* and which, if continued only in Pasture, is in these Countries worth 15 or 20 Shillings *per* Acre, and sometimes more; but when sow'd with those Kinds of Seeds, just mention'd, has to my own particular Knowledge produc'd 12, 15 and 20 *l. per* Acre, all Expences paid; but of this, more in its proper Place.

Of those Russet Gray Earths there are two kinds, one that is very strong, lumpy and heavy, and the other that is lighter, and more approaching the Nature of Sand. The first Kind must be us'd, as is already taught, for Clays, and Summer fallowing for Wheat,

Wheat, and Winter for Barley are of excellent uſe; as for Peaſe, Beans, and Oats, they are Grains that require the leaſt Preparation of any that the Husbandman ſows, and are indeed a kind of Tillage themſelves, by reducing Grounds to a proper Temper, and the Grounds may remain as rough, as if they were juſt fallow'd, and yet produce thoſe Crops. About Fifty or Sixty Load of Sea Sand, Cole Aſhes, or Pigeons Dung will be a good ſimple Manure for it; or you may make uſe of the Compoſition I have before preſcrib'd for Clayey Grounds, but what are of mighty Advantage for all theſe kind of Lands, are the Superficial Dreſſings of Malt Duſt, Cole Aſhes, Wood and Straw Aſhes, Pigeons Dung, *&c.* laid on upon your Corn in *January*, *February* or *March*, after the Crop is ſow'd; becauſe it gives new Spirit, Life and Vigour to the Grain and Ground likewiſe. And this ſhould never be neglected to Ground, that is any ways poor, and has not been manur'd before ſowing.

But the chief of theſe Soils I am upon, and on which I intend to enlarge the moſt, are thoſe that are by Nature light; becauſe, tho' they are eaſier brought into Tillage than other Lands, yet are they ſooner wore out, and will conſequently require more and oftner Applications to redreſs them.

As

As for Summer or Winter fallowing, there is not that Occaſion here, as there is in heavier Lands; and, if they are very light, need not to be fallowed at all, it being obſerv'd by Husbandmen, that they produce Abundance of Weeds, as Charnock, *&c.* after ſuch an Expoſure; when ever you have a Mind then to plow ſuch Lands, if they want dunging, be provided of large Leſtals of ſuch Dung, Earths, *&c.* as can be got at hand, always remembring, what I have in the firſt Volume affirm'd, that Dung and Earth mix'd together are much more advantageous to the Improvement of Lands than Dung us'd ſeparately, for the Reaſons there aſſign'd; and I muſt urterly condemn the Method ſome of our Country Men take of ſpreading their Dung in little heaps all over their Land, for that the Sun exhauſts and eradicates the Salt and Fertility thereof, by its long Expoſure in the Summer Months, and is indeed ſo dry'd, as not to retain any Virtue at all.

For Lands of this Kind take, then, the following Compoſitions; one Load of rotten Dung; one Load of Lime; one of the Shovelling of Streets, and half a Load of Cole Aſhes, Pigeons Dung, or Sea Sand; or, in Default of that, the waſhing of Hills. And if amongſt theſe there are mix'd half a Load or any Quantity, in Proportion, of Garden Sweepings, of the Leaves and Traſh of Trees, the Guts and Garbage of Beaſts and Fowl,

of

of Pot-Aſhes, Old Rags, *&c.* it will in three or four Months, and by often turning make excellent Manure; about 60 or 80 Loads will be ſufficient for an Acre, and you may hereon ſow what you pleaſe; but our general Method in this, as in all other Lands is Change. If theſe Ruſſet Gray Earths lie low, and the Water run round them, or thro', by Ditches and Carriages, as we term them, then they are excellent for Coal, Hemp and Flax, and will bring in more Money than Corn will. The firſt Year, then, after the Ground is new broke up, or newly Dung'd and Manur'd, ſow it with Hemp, Flax, or Coal Seed; and after that, you may ſow Oats, Barley, or Pulſe, and Wheat alſo, if it be naturally good Land; for thoſe other Seeds are great Drainers and Decayers of the Salt and Nitrous Parts of Land; ſo that except the Ground is very good, or one can ſpare a little Compoſt to re-invigorate it, one would never ſow Wheat; for the Compoſts for theſe lower wet Lands, tho' they are looſe, ought to be of a more lively Nature, than thoſe that lie high; for which, then, take as follows (*viz.*) one Load and a half of Sea Sand, Coal-Aſhes, Pigeon, or Sheep's Dung: One Load of good rotten Dung: And half a Load of the Shovelling of Streets, Pond Earth, or the like; Add to theſe, a quarter of a Load of Pot-Aſhes, or any other of thoſe Kind of Simples, that I have

capitulated above a ſimple Manure; for thoſe low Lands is likewiſe Chalk, as Lime, Marle, and Loame are for thoſe that lie higher and farther from Water; for which I alſo recommend (where all thoſe Simples can't be procur'd) Lime and Pond Earth mix'd together, if the Ground be very light; as alſo Loame and Marle, by themſelves, of which more in their proper Places ſuperficial Dreſſings are likewiſe very good here.

The next and laſt Earths I ſhall mention, are ſandy Loames, or more barren and looſe Sands. Now as ſandy Loams are ſome of the very beſt Lands, and the eaſieſt reducible into Tillage, they will require the leſs Conſideration, 'tis ſufficient for them that they are Plough'd juſt as they are to be Sown, for the ſame Reaſons I have juſt now aſſign'd to the looſe Gray Ruſſets; for Loamy Sands, or Brick Earths, that are thoſe where the Loame is predominant; theſe have been already conſider'd, and theſe will produce in their reſpective Changes all Sorts of Grain; as alſo all our Garden and Culinary Seeds, as Peaſe, Beans, Carrots, Turnips and Parſnips, and have little occaſion of Manure and Reſt, but once in four or five Years at moſt; after, then, they have Sown this Kind of Ground for two or three Years with the ſucceſſive Garden Crops of Peaſe, Beans, *&c.* then the Ground be Sown afterwards with Wheat, Barley

and

and Oats, becauſe this Ground being by Nature very rich (too rich indeed for Corn, and would make it run all to Straw) the Garden Crops will draw off the ſuperabundant Luxury thereof, and make it more fit for the other Products of Corn.

But as theſe Grounds as well as others will decay, ſome in five or ſix, and others in ſeven, eight or nine Years, 'tis reaſonable to give then ſome Reſt, or ſome Manure. The Manures that are proper for them, and which will naturally impart a Blackiſhneſs, are Dungs well temper'd, mix'd and blended with Earth, of a pretty equal Temper, not too hot nor too cold; after the following Manner, one Load of rotten Horſe Dung, a quarter of a Load of Lime, a quarter of a Load of Pidgeon and Sheep's Dung, a quarter of a Load of Cow's Dung, and a quarter of a Load of Sea Sand, half a Load of Marle, and half a Load of ſmall Chalk, if they are to be had, or Chalk and Marle mix'd together are very good, or Chalk or Marle ſeparate, about 100 Load of the firſt, and 70 of the laſt; for that Marle us'd in too great abundance, will be of ill Conſequence to theſe Kinds of Lands, as making them too luxurious, which would be, and is a great Fault in all Lands, as too lean making every thing that grows in it, run all to Hawm; and tho' it may ſeem a kind of a Paradox, yet, I dare affirm, there

are almoſt as many ordinary Crops miſcarry by this means as the other.

Another great Improvement of theſe Kinds, and indeed all Sorts of Lands, are Turnips; for that after the Vigour of the Ground is waſted, or the Ground is, as we ſay, tired, a Crop of Turnips ſow'd thereon, and Winter-fed with Beaſts, or Sheep (as we ſhall hereafter ſpeak more largely) will mightily refreſh, and by Ploughing in the Offal, you may the next Spring ſow it with Barley, Oats, and any other Grain. *French* Wheat or Vetches, is what one would make the laſt of all ones Crops, before the Sowing it over again is re-aſſum'd with Garden Stuff, or Corn; on the Vetches may be baited Horſes, on the *French*, Cows, whilſt it is green; and as they trample upon Dung very much, they improve, and by the natural Heat of their Bodies, as they lie, do cheriſh the Ground in an unconceivable Manner; and when they have eat and bask'd about it, then may the Remainder be plough'd in, which is indeed of it ſelf naturally a very great Improver, but much more with theſe Auxiliaries.

The laſt Kinds of Earth I ſhall mention, are poor Lands, be they either Sand, or Natural Mold, ſhallow as they are, and ſtripp'd of all their Natural Principles, by too much Ploughing and Sowing, or as they are robb'd by their rapacious Subſtitutes, and Under-

layers

Layers of Gravel, Sand, Clay, or Chalk; and these of all others require an annual or biennial, at least a triennial Relief by Compost, or other Artificial Improvements; and, because these Kinds of Earth are very numerous and extensive, the Husbandman ought, by all possible means to apply his Thoughts to find out great Quantities and great Varieties of Improvements, either Simple, Compound, or Natural. And the first I shall mention amongst the Simples is Chalk, if the Ground lie upon a Clay, or Marle, if on a Rock, or sandy, or gravelly Bottom, or as either of them are more lightly or heavily dispos'd, or requires the contrary Qualities of Heat and Cold; but as these two Improvers are not always easy to be procur'd, the Husbandman must stretch his Consideration yet farther, and procure good Quantities of Manure, for 'tis dry barren Land, of which generally most Farms and Estates are compos'd; and because in these shallow Kinds of Land, there is Substance wanting, we ought to take care to fleece and pick up all the Mold we possibly can out of the High-ways, and other publick and useless Places and Corners, allowing at least 160 Load to an Acre: Let our Composition be then two Load of Turffy Earth, collected as above; one Load of Pond Earth, or the scouring of Ditches; two Load of rotten Horse Dung, half a Load of Cow's Dung, half a Load of Hog's Dung, half a

Load of Lime; all theſe being well blended, mix'd and incorporated together, will make a ſubſtantial, excellent Manure; and to this Compoſition may likewiſe be added, the Garbage of Poultry, Sweepings of the Houſe, the Traſh and Leaves of the Garden, or any other Refuſe; and this will laſt three or four Years, whilſt you Reap or Mow the ſeveral Crops of Wheat, Barley and Oats; and then you muſt think of reſting it a Year, or elſe throwing it up to Graſs; and if the Country naturally produces Chalk, Loame, or Marle; either of them will be a proper Manure for once, by which means you have one or two, or perhaps three or four Changes: And if the Country abounds with Sheep, then a Folding for another, and laſt of all Compoſts of Sea Sand and Lime mix'd together, and laid in a Pit, as ſhall be hereafter directed, will make an excellent Dreſſing. I had almoſt forgot to adviſe what I have elſewhere briefly intimated; that you ought by no means to omit the ſearching the Nature of your Ground below by Digging, for 'tis ten to one but you meet with ſeveral Kinds of Earth and Clays, yet the Bowels of your Land, be it never ſo poor, that will be of great Uſe and Improvement to the Surface, ſince there are few, very few Clays that do not contain a good deal of Vegetative Salt in them, and being untry'd and freſh, will yield both Subſtance and Spirit to your worn out and exhauſted

hauſted Lands, as I have before-mention'd in the Caſe of my Friend, that digg'd only a Saw-pit in one corner of his Field, and there found a coarſe, rough ſort of Earth and Clay, which nevertheleſs fertiliz'd his Land in a very great Degree, and inclin'd him, when he had once ſeen the Advantage of it, to dig Pits on purpoſe, wherewith he improv'd his Land; and this is particularly uſeful where the Ground lies a great way from Dung, and other better known Improvements; tho' even there this would be advantageous for a Change. Theſe ſeveral Changes, in the Culture and Management of Lands, are of mighty Value, becauſe it has always been obſerv'd by our skilful Husbandmen, that the Dreſſing of Ground, one and the ſame way, two or three times has not had the good Effect of that Change; and of this I deſire particular Notice ſhould be taken. But if the Ground be poor and well tired out, then it is that the Farmer has Recourſe to the laſt, and indeed ſome of the greateſt Improvements that have been diſcover'd in this and the laſt Century, I mean Graſs Seeds; for poor clayey, Clover, Treefoil and Regraſs, and for poorer dry Land on a rocky, ſhelly Ground, *Saint-Foin French* Tares or Vetches, becauſe there are none of theſe but you may plough in after you have fed them a Year or two; or you may, if you want Grazing Ground and Fodder continue the Clover three or four Years,

but the *Saint-Foin* will last 10 or 12 Years very well, and sometimes more, if ordered as shall be hereafter directed.

These Kind of Improvements on poor Lands are sometimes admirable, and did we not see it by daily Experience, the bare Narration of it would scarce meet with Credit: But we are oblig'd to the *Dutch* and *Flemmings* for them, how it should be, that poor Ground should produce Vegetables towards the enriching of it self seems paradoxical; but thus they may be suppos'd to affect it (*viz.*) being by Nature of a porous, succulent Quality, both in the Stems and Leaves they receive their chief Nourishment from the Sun, Rain and Air, which all of them abound with Nitre, and not altogether from the Ground, which, tho' an Indulgent is a weak Mother and could not effect it, were it not for the additional Helps of the other Vegetative Co-efficient Powers in the Works of Nature, as not now capitulated.

But the greatest of Vegetative Improvements for poor Lands are *French* or *Buck* Wheat, and our common Vetches, and are at any time as good as a Dunging. These sow'd, as shall be elsewhere directed and plow'd in before the Grain is ripe, yield a prodigious Enrichment to poor hungry Lands. When the Ground is then pretty well tired, but not quite exhausted, plough it in the Spring, and in *May* sow it either with *Buck* Wheat or Vetches

Vetches, and about the beginning of *Auguſt* plough it in, and it is one of the beſt Vegetative Manures; or if you have a mind, and the Seaſon offers, you may ſheer off the tops of your *Buck* Wheat, and feed your Hogs and Poultry therewith; For the Farmers ſuppoſe, that the chief Virtue of *Buck* Wheat lies juſt between the Root and the Straw, in that Place where we aſſign the Principle of Life to be ſeated; and they add, that when the Ground is plough'd up, it ſwells as if it were newly dung'd with Horſe Dung; which ſeems to intimate, that there is a great deal of Virtue in the Roots of the Corn it ſelf.

It would be difficult to aſſign particular Rules for the Management and Cropping of theſe kind of Lands; but from what has been generally and promiſcuouſly ſaid, the careful Husbandman may collect what he is to do in all, or moſt Sorts of Land he ſhall meet with: And 'tis indeed a great happineſs that he begins his Work at this time of Day, when Improvements of Land are ſo well known. It were not eaſy to believe, did it not occur daily, that Earth could be improved by its own Produce, and that the very Sea and the interior Bowels of the Earth ſhould contribute to the Improvement of the Surface of our Lands, which heretofore were thought improvable only by Dung; beſides, Dungs ſimply conſider'd, 'tis pleaſant to think that Sea Sand, Sea Weeds, Oyſters, and other

Sea

Sea Shells, the very Leaves of Trees, either rotted, or, which is a quicker way, burnt to Aſhes ſhould make good Manure, or that *Buck* Wheat and Vetches, Turnips and other culinary Roots, and the Mucilage and Refuſe thereof; that the Shovellings of Streets and Coal Aſhes (that have long, and in many Places been thrown in ſome neglected corner) ſhould be now ſome of the beſt Improvements. We have beſides, that Lime from the hardeſt Chalk and Stone, when it has paſt thro' its fiery trial, and reduc'd into a kind of Aſhes (very different at firſt ſight one would imagine from any thing in Vegetable Nature) ſhould yet afford us ſuch great Quantities of ſaline Principles, the very Life of Vegetation it ſelf. The particular Virtues of all theſe Improvements ſhall be what we ſhall next inquire into, and alſo how and where they are to be employ'd to the beſt purpoſe.

SECTION V.

Of the Nature of Dungs, &c. for the Improvement of Land before sowing.

Of Horse Dung.

WE begin with Horse Dung, being the commonest and best known; and, as it is simply considered, the best Improvement for cold jejune Lands (as Cow Dung is for hot) that we have in any Quantity, tho' I can't but urge, as I have elsewhere intimated the using Horse Dung alone, or when it's too new, is a great Fault; and, which is worst of all, the spreading it thin over their Lands in Summer time, by which means the Sun draws out all the Virtue and Goodness of it, and leaves it little better than Thatch or dry Straw; the using it in too great a degree is likewise a fault that ought to be avoided, as being thereby naturally productive of Weeds (I mean as to Corn) tho' in the Kitchen Garden, as for Colly-Flowers, Cabbage, and all other Plants that grow there, and require abundance of Nourishment, you can scarce use too much of it: But for Corn Lands that are light, and not too much wore out, 15 or 20 Load will do for an Acre, whilst

whilſt in other poor Lands 30 or 40 will be but enough. Horſe Dung is generally carriedinto the Fields in *May*, when the Teams are moſt at leiſure, but I rather adviſe the mixing it with Pond Earth, the Shovellings of Streets, or Lime, than to uſe it ſingly, and eſpecially in all hot natur'd Land, where it is very apt to force the Ground too faſt, to produce abundance of Weeds, and be injurious to the Crops you ſow upon them. 'Tis for this reaſon, that in *Eſſex*, *Hartford*, and other Neighbouring Countries, they get what Quantities of Lime Stones they can to mix with it, tho' at a great Expence.

Our beſt Husbandmen aver, that Horſe Dung is beſt to be us'd when the Ground is to be ſow'd with Barly rather than Wheat, tho' many of our Country Farmers rather chuſe to Dung their Lands when they ſow Wheat on them; but if you Dung it for Barly, which I much rather approve, lay it on your Land at *Michaelmas*, or as ſoon as ever you have given it a Winter Fallow, and then the Rains will waſh it in, and digeſt it before the Seed is fit to be ſown in it.

In ſhort, the beſt uſe that can be made of Horſe Dung, if the Land you are to Dung be light and ſhallow, is to mix one Load of Horſe Dung, one of Pond Earth, and half a Load of Cow Dung, let them be well conſum'd together; and if you have Coal or Sand,

Sand, add thereto the ſame Quantity of Lime to ballance the Vigour of their Heat. This being carried out in *May*, and laid in a Leſtal, and turn'd over once or twice in the Summer, will be an excellent Manure by the time you have occaſion to uſe this for Wheat.

On the contrary, in cold Land and ſhallow, two Loads of Dung, one of Coal Aſhes, or Sand, one of natural Mold, and one of ſmall Chalk. And here always obſerve, that the oftner you Dung Clayey Land, and the leſs you lay in Proportion, is the better; for that greedy Clays ſoon eat the Dung out, or binds it, ſo that 'tis of no uſe, and ſhould for that reaſon be always laid on in the beginning of Winter, and when the Ground is fallow, that the Dung and Earth may mix and incorporate together, and be the fitter for uſe in the Spring Crop.

SECTION

SECTION VI.

Of Sheep's and Hog's Dung, and of Human Ordure, uſed before ſowing.

SHeep and Hog's Dung come next to be conſidered, which, for their different Quality, in cold and hot Lands none exceed; they are not commonly to be got in great Quantities, and therefore it is, that the Uſe of neither is ſo well known as they might otherwiſe be, though the extraordinary Goodneſs of them is ſuch, that it would anſwer the Expence of the Farmer as well as Gardener to collect them together, if it were at the Price of 2 *d.* or 3 *d. per* Buſhel, eſpecially Sheep's Dung, as it is found on all Sheep's Walks and Downs, or at the Places (upon Down Land) where theſe Animals are generally fodder'd. The firſt, I mean Hog's Dung, is excellent good ſpread on all light Lands, and to have a good Quantity of that, it ought to be kept by it ſelf, and to be well bedded with Straw, Peaſe, Hawm, and to be often fed with the Refuſe of Garden Stuff, and milk Thiſtles before they come to Seed. And the later is excellent good to ſpread lightly over Autumn or Spring Crops, being beat into a kind of a Powder, and ſpread over it very thin, four or five Load

Load will do an Acre, in the ſame manner as you do with Aſhes, Malt Duſt, *&c.* of which we ſhall ſay more when we come to ſuperficial Dreſſings, *&c.* every good Husbandman then would by no means omit the gathering and getting Sheep's (or which is near the ſame Nature Deers) Dung together out of all waſte Lands, which may not only be the better for the Lands, but will likewiſe contribute ſomething towards the Employing of poor Pariſh Children, of which there are too many, that are ſuffer'd to live idle, lazy Lives, and come to nothing but thieving and Hedge breaking. Of Human Ordure, I doubt there is in the Country no great Quantities to be procur'd; what can be got, would be of the greateſt Improvement to all cold, ſour Lands, eſpecially if mix'd with other Earths and Dungs; and this, ſmall as it is, ought not to be loſt, but care taken from time to time to commix and blend it with common Horſe or Cow Dung, Pond Earth, *&c.*

SECTION

SECTION VII.

Of the Dungs of Poultry, uſed before Sowing.

PIgeon, Hen and Gooſe Dung are all of them excellent good Improvers of Meadow or Corn Land, but are beſt uſed ſuperficially upon either; four or five Load will be ſufficient for an Acre, ſow'd over it about the beginning of *November* for Wheat, or juſt as Barley is ſow'd, it being excellent for them, eſpecially in all cold Lands. And *Collumella* ſay, long ago, of Pigeon's Dung, *Præ cæteris terram facit fermentare*: i. e. It is Leſtal fermenting Lands. But theſe ought, above all, to lye ſome time out of their Dove Coats and Houſes, that the Air may a little ſweeten and mollify the fiery Heat that is inherent in thoſe Dungs, even to a Fault; but we ſhall ſpeak more of them when we come by and by to ſuperficial Coverings.

SECTION VIII.

Of Marle, Chalk, Lime, &c. used before Sowing.

SOME that have writ concerning Husbandry, have divided Marle into five or six Sorts, according as they are found in the several Strata and Beds of the Earth. One call'd a Cow-shut Marle, of a browniſh Colour, with blew Veins in it, and little Lumps of Chalk and Lime-ſtone that is found under ſtiff Clays, but hard to dig. A ſecond, a Stone Slate or Flag Marle from the Slaty Manner of its Riſing; they ſay, that it eaſily diſſolves after Froſt and Rain is found near the ſides of Hills and Rivers, and is of a laſting Kind. A third Sort, is a Pealy or Delving Marle, riſes in deep Pits, is cloſe, ſtrong, brown Colour and fat; is found on the ſides of Hills, and ſometimes in Boggy Lands, is ſome of the beſt of Marles, but requires a double Quantity, as it is neither ſo unctuous nor ſpirituous as other Marles are, tho' it is more laſting. A fourth Marle is like Clay, and mix'd with Chalk Stones. A fifth is call'd Steel Marle, riſing of it ſelf like Blocks of Stone, in ſquare Cubes. A ſixth, and which is the leaſt valuable, as being hard to be got, is Paper Marle;

it appears like Leaves or Pieces of brown Paper, only ſomething lighter. To conclude, the general Diviſions of Marle, are to four Sorts, as they appear of different Colours, and are a Blue, a Yellow, a Grey, and a Red Marle; the Blue is generally reckon'd the beſt, the Yellow next, and next the Grey; but the Red will not hold ſo long. I have alſo ſeen a whitiſh Kind in the Iſle of *Wight*, of which Colour their Marles generally are. Theſe Marles ought to be laid on Land, ſometimes more and ſometimes leſs, according to the richneſs, or poorneſs, or depth of the Land you marle. In the aforeſaid Iſland, they tell me, they lay on from 60 to 100, or 120 Load, and their Land there generally runs upon a ſandy Land, but it is better to lay on too little than too much. In fine, the Properties of any Sorts of Marle, and by which you are to judge of its Goodneſs, are that they break eaſily into Bits or thin Flakes, like Lead Ore, without any mixture of Sand, or Gravel, and flake like Slate Stones, and fall to pieces after wet, or being expos'd to the Sun and Froſt, will in ſome reaſonable time turn to Duſt, or, when thorough dry, will not bind together like ſtiff Clay, but is fat and tender, and makes the Ground whereon you lay it of a proper Conſiſtency, ſuch as we have heretofore aſſign'd to good Land. Marle as is before obſerv'd, agrees beſt with ſandy, looſe Land; but as there is no Rule

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without an Exception, ſo ought the Husbandman (in this as well other Improvements) to try a little of it on Lands that are ſuppoſed of a Nature contrary to it, ſince a ſmall Experiment is eaſily made; but if the Ground be a very ſtiff Clay, and apt to bind it down, the Farmer ought to mix it with Coal Aſhes, or Sea Sand, which will both together make an excellent Compoſt, and one will free the other from that Ligature and Impriſonment that Clays naturally lay upon Dung, and every thing elſe that is near its own Nature, as Marle is. Concerning Lands that are marl'd, 'tis neceſſary to obſerve, they generally ſpeaking, ſow them the firſt Year with Wheat, the ſecond with Barley, and the laſt Oats, and ſo they repeat it; but others are of Opinion, that all Lands are better the ſecond and third Year after marling, than they are the firſt, and therefore ſome begin with Oats, if it be a light Land, and the next Year with Wheat, the next with Peaſe, then Barley, and ſo on. After it has been plough'd five or ſix Years, or, if good Land, ſeven or eight, it will be proper to lay it up for Graſs two or three more; for by this the Ground aſſumes new Vigour, and the Marle will not be all gone in fifteen or twenty, and in ſome Places twentyfive or thirthy Years. And here it muſt be noted, that all Lands ſhould be marl'd in Proportion to the depth of Earth that it is clay'd upon, for otherwiſe it may be

over marl'd, which as has been before hinted, is a much greater Fault than under marling: For Lands that are toleraby good, and not deep, from 60 to 120 Load on an Acre is sufficient, but there are barren Lands that are very deep, that will require 3 or 400 Load; but these Lands are not so common as midling Lands are, and every Husbandman ought to try before he depends on any precise Rules, be they never so specious.

To these Marles we may adjoyn Clays, which are something of the same Nature, tho' if they are good, they are most unctuous and clammy; yet being dug in *May* or *June*, and expos'd to the Corrections of the Sun and Air in the solstitial Months, the succeeding Autumn Rains, will make them excellent Manure for all light Lands, by allaying the Heat and giving a proper Ligature and Consistence to them, and making them more solid and tenacious, and more constant in the Production of their Crops; and, which is of no small use, destructive to Weeds. Even Clays ought not to be set light by in sandy Countries, but Experiments should be made of them, whether they will be any ways a help, and these Experiments are neither dangerous nor expensive. In fine, in all Sorts of Lands that are either sandy or clayey, the diligent Husbandman will endeavour to prepare Mixtures of a different Nature, there being, as we have

elſewhere no Land, but has ſomething proper to its help nearer than we ſometimes imagine.

CHAP. III.

SECTION I.

Of Superficial Dreſſings for Land, after they are ſown.

SOME of the greateſt Improvements that have within theſe few Years been diſcover'd, are the Superficial Dreſſings of Corn and Meadow Land, both of them of excellent Uſe, by giving a new Ferment to all ſuch Lands that are in any degree ſluggiſh and unactive, and enriching theſe that are jejune and flow; and theſe Superficial Dreſſings are the more uſeful and convenient as they may with more Eaſe be carried to the reſpective Lands where they are uſed, ſix, eight, or ten Load being a ſufficient Dreſs for an Acre of the pooreſt Lands; 'tis true, they are but of one Years Continuance (at leaſt they abate very quickly) but nevertheleſs they are very uſeful, becauſe in great Villa's or Farms, there are commonly ſo much Buſineſs, that by means of ſome contrary Seaſons, they are often

ten caſt behind in their Affairs, and a great deal of their Lands uncultivated, which this ſuperficial way of Dreſſing does amply, ſupply, and wherein the Husbandman has neither time nor opportunity to Dung and Manure his Ground after the common Method; theſe will ſupply the Defect, and that with a very little Expence. Theſe Superficial Dreſſings are of ſeveral different Kinds, which having not as yet been drawn into Order or Method by any of our Ruſtick Authors, I ſhall take care to do it, and to range them under their ſeveral Numbers and Denominations, as they ſerve for the Service and Improvement of Vegetation: And the firſt I ſhall mention is, the Folding of Sheep on Ground already ſow'd; and this is commonly the Caſe in Wheat that has not been dung'd or otherways manur'd: for this Folding of Sheep faſtens the Earth cloſe to the Roots of the Corn, and at the ſame time by their Dung and Urine improving the Earth, and by their Heat keeping it warm, may be reckon'd amongſt one of our beſt Superficial Improvements; but this being a kind of Natural Improvement, and ſuch as is very well known to every Country Hind and Shepherd, I have the leſs occaſion to enlarge on it, when I have obſerv'd that theſe Foldings are proper to be uſed chiefly on Wheat, during the Months of *November* and *December*, or in fine Weather in *January*, *February* or *March*; for, tho' the Sheep will eat

eat it down, yet 'tis never the worſe but the better for that; in the mean time the Roots get ſtrength, and when fine Weather comes the Corn will ſhoot out with new Strength and Vigour. But I proceed to the ſeveral other Dreſſings now in Uſe, and Range them in their particular Numbers and Claſſes; and the firſt I ſhall ſpeak of are Coal Aſhes.

SECTION II.

Of Superficial Dreſſing by Coal Aſhes.

COAL Aſhes, which I call (No. 1.) are well known to be made of *New-Caſtle*, *Scotch* and other Pit Coal; the firſt Kind of which are the beſt, as containing a greater Quantity of Nitrous and Sulphurous Matter than other Coals do; however, there are none of the other Kinds but what are very good, and by no means to be rejected: And it ſeems ſomething ſtrange, that ſo great an Improvement ſhould have been ſo many Years neglected and thrown about to make Path-ways to walk on; and, which is worſe, we often ſee them lye on heaps about Gentlemen's Kitchins, as if they were of no uſe, when really, there is ſcarce any thing of Vegetables, but what will receive Benefit by them, being apply'd ſuperficially and hot too near the Roots,

for the Rains washing down their Nitrous and Sulphurous Qualities, opens the Ground, and will upon the strength of Water cause it to heave in some Degree, as Lime will do after Burning, with the Application of Water: Nothing is better for Meadow Land. A Gentleman of my Acquaintance in *Hampshire*, upon laying on a Quantity, had a prodigious Burthen of Grass, even to a Miracle, but he found that he had loaded too much on, and therefore he laid only about 10 Loads on an Acre, and had a very regular, noble Crop the next Year. And in the worst Lands of all, 10 or 12 Loads are full enough; but in the covering Corn in poor sandy shallow Ground, the Coal Ashes ought to be mix'd with Mold, or, which is better, with Pond Earth; For, this not only improves, but qualifies and deepens the Soil and Manure together. And I can't but recommend the mixing of this and all other Superficial Improvements, with an adequate Quantity of Earth, at least as it will be a help to fix and receive the Salts of the Ashes, *&c.* the better.

Besides the use it is of to sour Meadow Land, It is also an excellent Improvement for Up-Lands and Grass Seeds, especially *Saint-foin*, which is sown on some of our poorest Lands. And this I have confirm'd to me by a Gentleman of the *Evelyn* Family (whom I mention in Gratitude for his Kindness to me) a Relation of that great Virtuoso whom we

have

have ſo much occaſion to mention; and that it did not only make his *Saint-Foin*, where it was laid, ſpread much larger than where there was none, but that alſo his Sheep fed upon it with the utmoſt Greedineſs, and would not, while there was any left of it, touch that which was not thus cover'd with Aſhes, as being moſt Graſs and juicy: But the greateſt Improvement to thoſe Graſs Seeds that come weak at firſt, as *Saint-Foin* does, is the mixing of them with the ſame quantity of Earth as it ſelf is; and laying about 20 or 30 Load on an Acre, this will ſtrengthen the Lands very much if they be poor, and will alſo make the *Saint-Foin* come up very ſtrong, if it be laid on the *Michaelmas* after ſowing, and ſo remain all the Winter, the next Graſs will be glorioufly ſtrong. And indeed Superficial Dreſſings every two or three Year will re-invigorate in a wonderful manner; but the Husbandman ſhould not do it always one way, but ſometimes by Sand, ſometimes by Coal Aſhes, *&c.* which will all follow in the Series of this Account.

SECTION

SECTION III.

Of the Superficia Dreſſings, by Wood Aſhes.

WOOD Aſhes may be reckon'd amongſt the Principal of our Superficial Improvements and Dreſſings, as containing a Vegetative Kind of Salt, which by Experience is very excellent on both Meadow and Corn Land, eſpecially if hous'd and kept dry till juſt they are us'd; for Rains not only waſh away their Nitrous Parts, but clog them up together in Heaps. And I very much recommend the Building of a long Shed, where theſe calcinated Dreſſings may be all laid in Range and Order, ready to ſpread on the Lands from *Michaelmas* to *Candlemas*, on Meadow and Wheat Lands, and even after that on Barly Lands, where they are poor. And theſe Wood Aſhes I call (No. 2.) about 12 or 14 Load of which will dreſs an Acre of the pooreſt Lands. And in ſome Lands that are indifferently good, 8 or 10 Load will be ſufficient. The Original of this Improvement are all Sorts of Wood, whether Billet, Faggot, or Bruſh Wood; But theſe are always reckon'd the beſt, that are made of the neweſt Wood, which is much better than old, dead Hedge Wood; the Nitrous Qualities of which

are

are drawn off by long continuance in the alternate change of Weather. Thus much of Wood and Coal Aſhes, as they are made by the common Fires us'd in a Family; to which if you add Lime in all hot Lands, it will not be an unprofitable Manure and Compoſition.

SECTION. IV.

Of Superficial Manures by Kiln Aſhes, or as 'tis made of Straw, Furze, &c.

THE Malſters in all Malting Countries, eſpecially in the *Weſt*, where they burn Straw, uſe likewiſe theſe Aſhes to ſift over their Corn and Graſs; and this they account as good as any of their Spirituous Improvements on lightiſh Lands, for they are ſcarce ſolid and ponderous enough for heavy. But theſe ought by no means to be neglected, for being preſerv'd dry in a Shed or Houſe, they may either be us'd on Lands that are haſten'd for Meadow, or on Corn, or any other Graſs Seed as before, participating as it doth with the Virtues that have before been ſpoke to in other of theſe Superficial Manures, and by their Heat, cauſing ſuch a Fermentation and Hollowneſs and Looſeneſs in the Mold, that the Rains more eaſily enter it, and diſpoſe the

the Earth and Plants for the giving up an Assumption of its Vegetative Augment. These being light, ought to be sifted or strow'd on very kindly over Corn and Grass; and it would be happy if the Husbandman could do it before Rain or Snow; for he must by no means do it in windy, dry, husky Weather, for the Wind will blow them all away, and then there will be no advantage to the Ground after all this trouble. About 10 or 12 Loads will be enough for a large Acre of Land, and 8 or 10 is often the most that they allow, and even 6 is sufficient in tractable Lands; but this must be left to the Discretion of the Industrious Farmer. And this Superficial Manure I call (No. 3.) laid up as I here, and shall by and by more largly, urge in particular Heaps and Classes in this our new Magazine.

SECTION V.

Of Superficial Dressings of Land with Saw-Dust.

ANother great Improvement of Land is by spreading Saw-Dust over Grass and Corn Lands, but then the Saw-Dust ought to lye a Twelve Month till the fiery and mordacious Quality of it be gone. And it would not be a little

a little to its advantage to mix it with Earth, for when it is new, it will burn up and ſtain either Graſs or Corn very much, but when it is brought into Order, there is no better Improvement, if ſpread pretty lightly on, which our Country Men are apt to undo, and thereby do more miſchief than good. About 10 or 12 Load is enough for an Acre, and if mix'd with the ſame quantity of Earth, about 20 Load. But there are ſome that go a nearer and quicker way to work, to make Saw-Duſt fit for ſifting over Meadow and Corn Lands, and that is, by burning them; by which means they are lighter Carriage, and go a great deal farther; 6 or 8 Load being ſufficient for an Acre. They are indeed ſomething of the Nature of Wood Aſhes, but are much ſtronger, in as much as they are mix'd with the Sap in much greater Quantities than common Wood Aſhes are, the Sap naturally following the Cut of the Saw, if the Timber is any whit green; but in this as well as all Aſhes and other Calcinations, the mixing of a little with them is of advantage, in caſe of dry, husky, windy Weather. And this let us call (No. 4.)

SECTION

SECTION. VI.

Of the Superficial Dreſſings and Improvement of Land by Turff Aſhes.

TUrff Aſhes come next to our Conſideration; and as they may be very well got in much greater Quantity than any other Superficial Manure we have been yet ſpeaking of (I ſhall not here refer to burn-baking, that being of another Kind) but ſhall ſpeak of it as it relates to Turff and other combuſtible Mold and Manures that may be collected in High-ways, Woods, Heaths, and Commons, and reduc'd by Fire into Aſhes, for the ſtrowing over our Corn and Meadow Lands, an induſtrious Man would therefore leave no waſte Places, High-ways, nor Corners unſought, but would pick it up and lay it in heaps and burn it, as he does the Turff in common burn-baking, and would carry it and have it ready to ſpread over his Corn and Grazing or Meadow Ground, as the Times uſually appointed for ſuch Works, require the fleecing up and burning, ſhould be done in *May* and part of *June*, which will alſo be a proper Time to amend and repair the High-ways with Stones if a deep Country, and the taking away the Turff in all High-ways, is much

much rather an Advantage than a Disadvantage thereto. The like may be said of all waste Lands, where the Herbage is liable to be eaten up by Cattle that have no Right to be there: But if Herbage be requir'd, and there be any Infringment in what they call Right of a Common; a small Reward may purchase it, and by sowing of Hay-Seed in the room of it, 'tis as easily supply'd as the taking away Turff for the turffing of Gardens. And 'tis easy and possible for many Husbandmen and Farmers to furnish themselves yearly with 2 or 300 Load of this, which if mix'd with Lime; if for hot-liver'd Land, or with Pond Earth, or any other kind of Mold to keep it from blowing about, there may be got enough Superficial Manure to do 50 or 60 Acres of Land in this Manner. And this I would call (No. 5.)

SECTION VII.

Of Superficial Manuring of Land with Lime.

ANother very profitable Manure for Land is Lime in Countries where it can be got in any plenty, especially for sandy, poor Land. And this Lime is still the better, being mix'd with Earth, or very rotten Dung; 10 or 12 Load mix'd will do an Acre, and allow-

lowing 4 of Lime to 6 of Dung, will coſt about 20 *s. per* Acre, if the Lime can be got for about 8 or 10 Groats a Quarter. But after ſuch a Dreſs, I dare engage it will be 50 *s.* or 3 *l.* the better in the Production of the Crops you have there ſow'd, and thus Superficially Manur'd. And, as Lime is by Nature apt to work downwards into the Ground, 'tis therefore much better to uſe it in this Superficial Manner than in any other; but being mix'd with Horſe, or any other Dung, or Earth is much better than it is by it ſelf; for where there is an Incorporation of theſe Bodies together, 'tis there they produce a proper Conſiſtency for the Growth and Augmentation of all Sorts of Vegetables. Stone Lime is accounted the beſt in Agriculture, as it is in Building, and is one of the beſt Improvements, not only by it ſelf ſimply, but mix'd and compounded with other Manures, of which ſomething has already been ſaid, and more will follow in all proper Places. This laſt Article I call (No. 6.)

SECTION

SECTION VIII.

Of Superficial Manuring of Lands, after the Corn is sow'd, by Malt Dust.

THere has not been (nor is in many Places at present) any sort of Improvement so little known or used as Malt Dust, nor indeed any thing that at first Sight one would think had less Virtue in it: But there is such a natural Heat and Sweetness in it, that gives the Earth whereon it is laid, a proper Fermentation, as Experience in *Hampshire* and other Malting Countries shows; from which we may judge, that every thing that gives Life and Vigour to Land, is not of one Kind or one Principle, be they then of a saline Quality as Salt, of a hot and biting Quality as Pepper, of a sharp and sour taste as Vinegar; be they sweet as Sugar, or Molosses, or in short, be they of what Quality soever, they all help forward in the Promotion of the great Work of Vegetation, by the subtle Insinuation of their spirituous Parts into the Surface of the Earth, there causing by the Co-operation of Water, the Dissolution of those Clods that contain the Chrystalline Parts, so necessary and so often understood to reside there for the Business of Vegetation. To come home to the Nature of Malt Dust, there is

not a greater Sweetner of sour Land than it, be they either natural Clays or Grounds that have by other Means contracted a Souerneſs and Auſterity, let it happen by Water ſtanding long thereon, or for want of Tillage and Expoſure to the Air; all which are of ill Conſequence to both Sorts of Lands. In all Meadow Grounds, then the Husbandman may look out for sour Patches, from which few are free, and by ſowing by Hand a little Malt Duſt, it will ſweeten them, and alſo all low Places where the Graſs is coarſe and apt to sour by Waters ſtanding thereon. There is no manner of Meadow Land, but if it be lightly ſtrow'd over with it, but will improve; and, were it to be procur'd in Quantities, a Husbandman would ſcarce think of any other Superficial Dreſſings. Wood and Stubble or Straw Aſhes are indeed good, but no ways to be compar'd with Malt Duſt. About 40 or 50 Buſhels will do an Acre very well, but it muſt be ſow'd, and mix'd with a heavy Earth to keep it from blowing away, or, if poſſible, juſt before a ſhower of Rain, that the Goodneſs of it may be waſh'd in, elſe the husky Winds will carry it away, and render it ineffectual. Laſt of all, there is not a better Superficial Cover or Dreſs than Malt Duſt for Corn, and eſpecially Barly participating of its own Nature in the Diſſolution of the Salts of the Earth, and conveying them again from the Matrix of the

the Earth, into the Stalks and Frame of the Corn. A prudent Farmer will then by no means omit to collect from his Malsters all the Malt Dust he can; and, if he is at 14, 15 or 16 Shillings an Acre Expence in dressing it, he will by no means repent of his Charge. And this amongst all my Superficial Dressings of Land, is what I call (No. 17.) and is better than the usual way of giving it to Hogs, which is apt to breed the Mange.

SECTION IX.

Of the Superficial Dressing of Land by Sea-Sand.

IT is Matter of surprising Observation, that Sea-Sand, so easy to be got, should have been no more made use of, especially after *Hints* given so long ago of its Usefulness, and particularly by my Lord *Verulam* in his *Natural History*. 'Tis strange that it is not better understood or practic'd on the South Coasts of *Hampshire*, *Sussex* and *Kent*, or indeed in other more Northern Countries. *Devonshire* seems to be the Place where it is best known and us'd; that Country, containing the most Industrious and Laborious of all others in the Arts of Husbandry that are in *England*: I

may very well add all *Britain*, their Land not being worth above 2 *s.* 6 *d.* or 3 *s. per* Acre, and in ſome Places not above 18 *d.* or 2 *s.* 'Tis owing to their Induſtry, that they make it worth 20, 30 or 40 *s.* And all this, without doubt, is not without a great deal of Labour. And in this Particular we are upon, they now in many Places fetching their Sand on Horſes Backs, 6, 8, 10 and 12 Miles, is an Inſtance of their indefatigable Induſtry, that being at the ſame time ſo heavy, that two Buſhels is the moſt their kind of Horſes can carry, ty'd up, as it is, in ſhort round Bags, but they have a great many go together, as the Horſes in the *North* do to their Coal Pits by Droves; ſo true it is, *That Neceſſity is the Mother of Invention.* And without which, theſe Hinds would certainly ſtarve their Country, it is in many Places ſo poor. And it appears to me, the reaſon why other Countries uſe Sea-Sand no more, is the natural Fertility of their Lands: But, however, except in *Lincoln*, *Cambridgſhire*, &c. there are few Countries but have occaſion more or leſs for it; nay, even in the Weald of *Lincolnſhire* it would be an excellent Improvement of all their enclos'd Lands, which now increaſe very much, the Nature of their Lands being in many Places like that of *Devonſhire*. And as for *Yorkſhire*, *Durham*, &c. the ſame may be ſaid of them, as well as of all other Parts of the Sea Coaſts where

where 'tis not us'd, and indeed ſcarce known, tho' ſo much wanted. And now, to inquire into its Properties, that Sand is beſt that is of a Red Colour, the Blue next; the White is accounted the worſt: But in *Devonſhire* they do not take of the ſmall, waſhy Sand that is thrown up by the Tides, but after they have ſhovell'd that away, they dig into the Sides of the Bank, and take that which is of a more coralline, ſmalliſh, gravelly Kind, which laſts much longer than the other, tho' the other will laſt a while, Mr. *Mortimer* tells us, they ſpread it as ſoon as they bring it home; but whatever they did when that Gentleman then wrote, they now take other Methods; for their Ground being in many Places hot by Nature, they dig a large Pit, and throw in Sand and Lime together, one Load and a half, or two of Lime, to one of Sand, which after they have laid 5, 6, 7, or 8 Months more or leſs, or according as they have occaſion for it, they take them out, and ſpread them on their Lands; but this way is for plough'd Lands: And for this Superficial way of Dreſſing, about 30 or 40 Buſhels of Lime and Sand mix'd together will be ſufficient; but theſe ought to be hous'd as for all theſe other Kinds. Our beſt Husbandmen recommend the uſing this, and all other ſuch ſpirituous Improvements, rather in a Superficial Manner, than to plough them in, becauſe they are all apt by Nature to ſink deep, and

as the Plough will of course bury them. And this makes our Burnt-Bakers in *Hampshire* use the Method of Rafter-Ploughing in all their lightish Lands, which would on the same Places, and for the same Reasons be a good Method for all spirituous Manures: all our Improvements in the Field, as well as Garden, having been by mistake always buried too deep. 'Tis true, these Dressings are to be repeated once in two or three Years at most; but then we must observe that the less will serve. That Sand is the best which is most mix'd with Sea Shells, and will last much longer, and if they are not in small Pieces, they should be broke with a Pounder: If after all this the Sand were mix'd with Mold, Pond Earth, *&c.* it would still be the better, especially in light, shallow Lands, where Depth is required, and where the fiery Heat and Salinity of the Sand is in any Danger of doing Hurt. Lands thus manur'd on the Top, will throw out double the Crop they would have done, had this not been practic'd; and the smallness of the Expence will encourage any body, especially our Gentleman Farmer in his beloved *Villa*, to attempt an Improvement of this Kind, when to it is added, that Water Carriage being every way cheaper and much better improv'd. I can't see why Sea Sand may not be procur'd in many of our In-land Countys very much to their Benefit, and after two or three Crops have been

taken

taken from them, they may be laid down to Graſs, which will be very excellent; a Gentleman aſſuring me, that it naturally produc'd a kind of white Hony-ſuckle, that was very pleaſant to Cattle, and made them naturally produce a great deal of Milk, if Milch Cattle, or otherwiſe would fatten them to a great degree. Having ſaid what I have thought at preſent proper in relation to Sand, I call it (No. 8.) or the 8th Superficial Improvement that I would make in Agriculture.

SECTION. X.

Of the Superficial Improvement of Land by Pulveriz'd Loame, or loamy Sand, Clay, Marle, &c.

ANother Superficial Covering for poor Corn-Land, eſpecially that that is ſhallow, is Loam, or loamy Sand, well beat and reduc'd to a Flower, or any crumbly Conſiſtence; and this, when ſpread over Corn and poor Land will keep it warm, and the nitrous Parts of it ſink down and re-invigorate the Ground. And thus indeed, all ſtiff Loams, Clays and Marles, *&c.* well dried and pulveriz'd and ſow'd pretty thick over Corn and Graſs, will help them in a wonderful manner,

and make them bear double the Crop they would not otherwiſe do. If the careful Husbandman has then any ſuch good Land as a rich Sand, ſandy Loam, or any other rich Marles and Clays after his Crops are ſown, let him ſow or ſift on by Hand, or ſpread it on with a light Shovel, allowing about 25 Loads to an Acre. And that all ſtiff Clays and Loams may be the better prepar'd for Covering, it will be very proper to break it up in the Spring, and lay it drying all the Summer. Then take a Pounder, ſuch as Apples, or Crabs, are commonly pounded with for Cyder, and beat it to a Duſt, after which, being carried into the Shed or Conſervatory, and mix'd with a third part of Pigeon's Dung, Coal Aſhes, or Sea Sand, it will make an excellent Cover for Corn, Graſs, *&c.* and thus you may alſo uſe Marle and looſe Chalk. And this I call (No. 9.) And thus may all the foregoing Manures and Improvements, with ſome few following, be reduc'd either by Calcination or Pulveriſation by Art, or as they are ready done to our Hands in the other common neceſſary Preparations of human Life, But to go on,

SECTION

SECTION XI.

Of the Superficial Improvement of Land by Turff Aſhes.

I Muſt not here omit what I have hear'd recommended, and that is, the Aſhes of Turff, ſuch as are dug for Firing in heathy Commons, and which in ſome Places of *Barkſhire* and other Countries they have very great Quantities, there being very ſeldom leſs than three or four Buſhels on a Fire at one time, which Aſhes they ſpread over their Lands of all Sorts, where they are very profitable, eſpecially on Clays. And for this Superficial way of Dreſſing we are upon, nothing can certainly be better than laying of 15 or 20 Load on an Acre, mix'd with Lime: But they muſt, as well as all the other Superficial Manures I have been ſpeaking of, be kept dry from the time they are about, till the time they are us'd, elſe the Rains will waſh away their Goodneſs, and clod them ſo together, that they can't be ſpread. And this I call (No. 10.) But before I quit this, I can't but Remark how 'tis poſſible that there ſhould be any Virtue in Heath that grows on ſo jejune and barren a Land as that commonly does, and is in it ſelf of ſo

dry

dry, husky a Nature, and in a hot degree porous enough to assume it, contain any quantity of Nitre or Sulphur from the Air, Rain, *&c.* any more than what is inherent in its own Nature. This, then, is certainly the Effect of all calcin'd Vegetables, namely a fiery Heat and Fermentation, which sets the Ground to Work on the approach of Wet, by a subtle Insinuation, unlocking those surly Clods, and quickening the Sluggishness of the Earth, it being a well-known and establish'd Maxim amongst the Naturalists, *That all Fermentation* (which like a Spring in Mechanism, sets the whole Scene of Nature at Work) *is caus'd by the Interposition or Mixture of Bodies of different Qualities one with another.* 'Tis thus that Sand mix'd with Clay does well, especially where it is impregnated with saline Qualities: And 'tis thus that Coal Ashes work there so admirable Effect in loosening and mouldring stiff Clay, and, as we commonly term it, making Ruff, and Ashey, or Sandy-like. And 'tis also certain, that those Improvements are better or worse, as they abound more or less with this Nitrous and Spirituous Matter, which Coal Ashes, and next to it, the Ashes of Vegetables do more than others; and 'tis this from which all Husbandmen may judge of the Quantity that is proper for an Acre of Land, or for any Quantity more or less.

SECTION

SECTION XII.

Of the Superficial Improvement of Lands, by burning of several Sorts of Vegetables.

THE next Improvement I shall speak of, that is procur'd by Calcination or Burning, is a Commixture of all the Offal of Vegetables, as Wheat, Barly and Oat Straw, were they not useful in Fodder, *&c.* but in their Room get a good Quantity of Wheat, or any other long Stubble of Fern, Furze, Broom, Hearth, the Leaves and Cuttings of Trees rak'd out of the Garden, Meadow and Field, and especially Coppices, out of which poor People might pull great Quantities of long Grass and Weeds, and might rake up great Quantities of Leaves, Brush Wood, *&c.* which would very much promote the natural Growth of the Wood it self. In short, a diligent Husbandman would search every Creek and Corner where he has any Property, or can have any Leave. And when a good Quantity of these several Materials of Fern, Furze, Broom, or any other Trash or Refuse is got together, he would there set fire to them, and carry the Ashes home, and lay them up in his Store-house for Superficial Coverings, for the ensuing Seasons of sowing Wheat

Wheat and Barly. What vaſt quantities thoſe Gentlemen and Farmers might procure that live near large Commons, and vaſt uncultivated Heaths and Woods, is obvious to every one that has made the leaſt Obſervation, and is a Confirmation of that generally receiv'd Maxim, *That Nature never made any thing in vain.* In this caſe it would be proper to allow, *3d.* 4*d.* 5*d.* or even *6d. per* Buſhel more or leſs to poor People, to collect and burn all ſuch Traſh in Summer dry Weather, or which would be more proper in the dryeſt Weather about *Michaelmas*, it being then they are largeſt of Growth, and beginning to dry, they will burn beſt. Of this, 'tis eaſy for any Farmer of Induſtry, in moſt Places, to collect 3, 4, 5, or 600 Buſhels more or leſs as he has occaſion. And this is what in courſe we call (No. 11.)

SECTION. XII.

Of the Superficial Improvement of Land by Soap and Pot-Aſhes, Soot, &c.

HERE alſo Nature has order'd a double Uſe to be made of thoſe Materials firſt nam'd, as the other is the Reſult of good Firing and Hoſpitality. But theſe all likewiſe ought to be kept in this our new Conſervatory

tory, to prevent the Rains from waſhing the Virtue of them away. The Soap Aſhes are good for cold, ſour Lands, for Graſs or Corn, and eſpecially for Wheat, but the Salt of the Pot Aſhes being drawn off in a great meaſure by the Potters, they ought to be laid thicker on than any other Aſhes; 6 or 8 Load of the firſt will do an Acre; but of the laſt, there had need be 15 or 20. But becauſe great Quantities of this can't be procur'd, the Farmer ought to do as much as he can, and mix them with other Superficial Manures, which will give him an opportunity of obſerving, which amongſt them all are the beſt Improvements, as alſo of the more proper and certain Quantities every Rod or Acre will require. Theſe Manures, whether we account them ſimply in ſmall Heaps as one, or blended together, I call (No. 12.) of our Superficial Dreſſings.

SECTION XIV.

Of Superficial Dreſſing of Lands, ſown with Corn, by Rags, Dyer's Dung, Hair of Beaſts, &c.

I Reckon all theſe Superficial Manures together, that I may avoid Multiplicity, as they and every one of them are more or leſs effe-

effectual in the Buſineſs of Vegetation, and in the Growth and Production of Plants and Corn. The firſt are great Improvements to chalky, binding Lands; ſuch, are many of thoſe in *Hampſhire* and *Wiltſhire*, and many other Places. About 25 or 26 Buſhels will manure an Acre, being chopp'd ſmall and harrowed in with the Corn, or ſtrewed over afterwards by Hand. The Hair of Beaſts is likewiſe very good Manure to throw over Lands, could we procure great Quantities; but this our Plaſterers rob us of. Dyer's Dung is by ſome accounted an excellent Improvement of Land, and two Load of it is ſufficient for an Acre, but I have not ſeen this us'd any where. If to all that we have ſaid, we add the waſte Bark out of Tann Yards, which has a very rich Salt in it: As likewiſe all the other Refuſe and Sweepings of the Tanners, which may be bought, I ſuppoſe, for 1 *d.* or 2 *d. per* Buſhel. Theſe, I ſay, all laid up in our Conſervatory, and ſpread on Corn, muſt of courſe improve it, but for fear they ſhould be too ſtrong before they are corrected by Fire, and that they ſhould not anſwer the Intent of Tillage ſoon enough, it would be well to burn them, and tho' there will be leſs in Quantity, it will go much farther; 4 or 5 Load of this being undoubtedly ſufficient for an Acre of Land, and much better than 20 or 25 unburnt, and will much

much change and improve the very Nature of the Land it ſelf. Theſe I call (No. 13.)

SECTION XV.

Of the Superficial Improvement of Lands, after they are ſown, by Pigeon's and Sheep's Dung.

PIgeon's Dung has long ago been known to be one of the beſt Superficial Improvements that can be laid on Meadow or Corn Land, when it has lain ſometime abroad, and is a little aired and ſweetned, and is eſpecially to be recommended for all cold, wet, clayey Lands; this I would alſo keep after 'tis aired and dried in the Conſervatory, that it may be dry and fit to ſow then, which it is not if it lies abroad, becauſe it naturally clots in the wet: 'Tis beſt then to mix it with a little Earth, to keep it from hanging together; and when it is dry in the Summer, the biggeſt Clods ought to be well beat to pieces and pulveriz'd, by which means you may ſow it as thin as you will, for the ſowing of it too thick is a great Fault, it being naturally very hot and ſtrong. The Dung in Hen Rooſts, that of Swans, Peacocks, Patridges, or any other of the oviparous Kind, are alſo to be us'd after the ſame

ſame manner, as is alſo that of Sheep and Deer collected together, and, when they are near dry, beat and pulveriz'd together, and kept till the time they are us'd in the Conſervatory. And this I call (No. 14.) Some Farmers ſow this with the Corn and harrow it in, but I prefer the pulverizing Way, inaſmuch as it does not fall in Heaps, but every Part has an adequate Proportion.

SECTION XVI.

Of the Superficial Improvement of Lands, after they are ſown, by Sea-ſhells.

THE laſt of all the Improvements of this Kind that I ſhall mention, are Oyſter, Cockle, or other Sea-Shells, either ſtamp'd to pieces, or, which is the quickeſt way of reducing them to Manure, by Burning and Calcination. And this Kind of Manure to all thoſe that live not only juſt by the Sea Coaſts, but to thoſe that live 10 or 15 Miles of, is not expenſive nor difficult to be procur'd, neither is the quantity of ſo little account as may at firſt be imagin'd, and is ſtill more uſeful and convenient in theſe Places where Water-Carriage is ſo eaſy, as it is now render'd in many Places, and would, in truth, be of much more Import for Land, than for Garden

Garden-Ground, tho' it is proper and agreeable for both. These Shells being nothing else but Salt congeal'd, when dissolv'd, are endu'd with a most fructifying Quality, and will enrich Lands for many Years together, tho' the first Year you may be very little sensible of its Effect, 'til it has been sufficiently mix'd with the moist Earth, and expos'd to the Sun. Your sower or cold Ground generally reaps the greatest Benefit from these Shells; and Sea-Sand, which has commonly Fish-Shells mix'd with it, broke almost as small as the Sand itself by the continual Flux of the Tide, is a very great Improver of Lands. The richest of all Sand is that which comes from the Creeks of the Sea; its Goodness consists in its Saltness, and the Fat or Filth that the Sea gathers from Land-Floods, the Shores, the Fish, and other Things that putrify in the Water, and the Mixing of the Shells as already mention'd. This Manure is very much used in the *West Country*, where, after they have taken four Crops of Corn from it, they lay down the Ground to Pasture for six or seven Years: It causes the Corn to have a large Ear and a short Straw, so that sometimes the Ear of Barley is almost as long as the Stalk: And the Product of Grass, after it is laid down, is very good, and, tho' short, yields great Plenty of Milk, and fattens Cattel exceedingly. There are three Sorts of Sands, the Red, the Blue, and the White, of which

the Red-colour'd is esteem'd the best, and the White the worst. These may be call'd N°. 15.

SECTION XVII.

Of the Improvement of arable Land by Burn-bating.

THIS Method of Improvement is call'd *Devonshiring*, as being in the County of *Devon* first invented and most practis'd: It is not proper for all Sorts of Lands, but that only which is barren, sowr, or heathy, whether it be hot or cold, dry or moist: It is done after the following Manner; You are first to get a Breast-Plough; with this you are to pare off the Turf, turning it over as it is cut, unless it be in a very hot Season; set it a little hollow, for its more easy drying; and when it is thorough dry let the Turf, be laid in small Heaps, about two Wheel-barrow Load together; and then if the Turf be full of fibrous Roots, or has a good Head upon it, it will burn without any additional Fuel; but if not, the Heaps are to be rais'd on small Bundles of Fern, Goss, *&c.* that it may set the whole on Fire. When the Heaps are reduc'd to Ashes, let them lie 'til they are a little

little ſodden with Rain, before you proceed to ſpread them; or if it be a dry Seaſon, and there is no Probability of Rain, you may, when the Wind is ſtill, give them a gentle Spreading; but if there be much Wind ſtirring, it will prevent their equal Scattering. In the Operation of *Burn-bating* particular Care is to be taken that the Turf be not over-burnt; for if it be reduc'd to white Aſhes, the nitrous Salt will be exhauſted; and the more moderate and regular the Fire is, the better the Salt is fix'd. The Ground under the Hills ought to be pared ſomewhat lower than the Surface of the Earth, to check the extraordinary Fertility occaſion'd by the Fire in thoſe Places beyond the others: And theſe Parings are likewiſe to be equally ſpread, otherwiſe it is impoſſible you ſhould have a Crop of Corn of equal Growth or Goodneſs. Some Perſons burn with the Earth, the Roots of Goſs, Broom, Stubble, *&c.* and others pare off the Heath and Turf, and after having made them into little Hills, fire and burn 'em to Aſhes; and into every Heap they put a Peck of unſlack'd Lime, which is to be cover'd over with the Aſhes, and ſo left to ſtand 'till the Rain comes and ſlackens the Lime, after which both are to be mingled together, and ſpread over the Land. This *Burn-bating* is a prodigious Improvement to barren heathy Ground; the firſt two or three Years it will produce ſurprizing Crops of Corn, inſomuch that a Man may in that Space of Time make the In-

heritance of his Land, and the Charges paid. But after 3 or 4 Years the Strength of this Improvement will conſiderably abate, and the Soil be leſs fertile than before for a long Succeſſion of Years; ſo that 'tis not adviſeable to take this Method of Improvement with any Land but what is of an inconſiderable Value. The Ground muſt be plough'd ſhallow, otherwiſe its Strength will be of ſhorter Duration; no more than the uſual Quantity of Seed is to be ſown, and that late in the Year; if it be Wheat, it muſt not be put into the Ground 'till towards the End of *October*, to prevent the exceſſive Rankneſs of the Corn.

SECTION XVIII.

Of Burning of Meadows and Paſture Ground.

AS the Huſbandry of Burning is neceſſary for reinvigorating of barren, heathy, arable Land, ſo it is an excellent Improvement to marſhy, cold, ruſhy Paſture, where the Ground is ſo moiſt, that the Hay is render'd ſhort and ſowr, and other Inconveniencies ariſe; when this Improvement is to be commenc'd. In the Month of *July* or *Auguſt* you are to pare off the Turf, and burn it after the Manner directed in Burning of arable Land: This being done, let the Ground be plough'd up, either imme-

immediately, or the following Spring, and sowed with Hay-Seed, or with Corn and Hay-Seed together. By this means the acid Juice, of a sterile Nature, which lay on the Surface of the Earth, and hinder'd the Growth of the Herbage, will be exhal'd, and the Grass which had a long time degenerated, by standing in a poor Ground, be totally destroy'd, and the Land restor'd to Fertility, so as to be capable of receiving a better Species brought in the Seed from other productive Soils. This Method of Burning Meadows and Pasture-Ground is certainly of the greatest Use; but the Expence and Trouble being very great, and the Improvement of Lime having got a prodigious Reputation, in respect to the Management of cold marshy Pasture, it is not at this Time so frequently practis'd as formerly, but Lime and other superficial Improvements are preferr'd.

SECTION XIX.

Of Improvements by Heath and Fern.

THere are several Particulars relating to the Burning of Heath and Fern, and the Management of the Land whereon they grow for Improvement, observ'd in several Counties of *England*, worthy to be commu-

nicated to the Reader. In *Kent* it is cuſtomary for Huſbandmen to cut up the Heath in *May*, and when 'tis dry they burn it, and ſpread the Aſhes on the Ground; afterwards they plough up the Turf with a broad finn'd Plough, this they likewiſe burn, and mingling the Aſhes with Lime and Sea-Sand, they alſo ſpread it over the Ground, and upon that lay a good Quantity of Dung.

About the End of *September* they ſow the Land with Wheat, which they do annually for three Years; the fourth Year they fold it with Sheep, and ſow it with Barley; the fifth, ſixth, and ſeventh Years they ſow it with Oats, and the eighth with Peaſe; and after that it will bear very good Graſs. In *Staffordſhire* they ſtock up the Heath in the Summer, and burn it, mixing the Aſhes with Lime, and allowing four Load to an Acre. They plough the Ground under Furrow about the Middle or End of *September*, or Beginning of *October*, and ſow it firſt with Rye, allowing two Buſhels to an Acre, the Encreaſe of which is commonly twenty five Buſhels. After the Crop of Rye they ſow Barley, next to Barley White Peaſe, after that Oats, and at laſt lay it down for Graſs. Fern is one of the worſt of Weeds, and hard to deſtroy; but if it be cut when the Sap is in it, and left to rot upon the Ground, it is a very great Improver of the Land; for if it be burnt when ſo cut, its Aſhes will produce double the Quantity of Salt of any other Vegetable.

SECTI-

SECTION XX.

Of Improvements by Claying of Land.

THO' Clayey Soils are very apt to retain Water on the Surface, ſo as to chill the Plants and Products, yet the Black and the Yellow are very well approv'd for Corn; they hold Manure better than any other Lands, and yield the beſt Grain, eſpecially where there is a Mixture of Limeſtone. But to come to the Improvements by Clay; Clay is commended as a conſiderable Improver of light and ſandy Grounds; but it is good to try it in different Lands, both arable and paſture; and for ſeveral times, at ſeveral Seaſons, and likewiſe in ſeveral Proportions; by which means you may find out the true Value of it, as you may by the ſame Method all ſubterranean Manures. This Claying of Ground has been practis'd many Years in ſome Parts of *Yorkſhire*; and the manner of doing it is thus: The Clay the Inhabitants have near, and after they have bared away two Yards deep of Sand, they ſink a Pit about ſix Yards in Depth, and eight or ten ſquare; out of this Pit they dig Clay, of a blueiſh brown Colour, not ſandy at all, but cloſe, fat, and very ponderous, and that burns well for Bricks: This they do about

Midſummer, and only in a dry Summer; allowing great Quantities to an Acre of Ground, and for three or four Years it continues in Clods upon the Land: It will laſt a very conſiderable Space of Time, for near forty Years, and then it is to be renew'd. Sandy Ground will bear no Sort of Corn but Rye, if you dreſs it never ſo well with Lime, or any other Compoſt; but if once you clay it, it will produce good Barley, Oats, Peaſe, *&c.* And Barley is the moſt proper Grain for Land improv'd this Way, which, after the firſt Year, will be plump and round like Wheat.

SECTION

SECTION XXI.

Of Enclosures, Improvements thereby, Fences, &c.

'TWould be endless to enumerate all the Advantages arising from Enclosures of Land; wherefore I shall content my self with only observing, that it promotes the natural Fertility and Richness of the Soil, and gives the Husbandman an Opportunity of adding his diligent Care and Expence to improve it, by which Means it will furnish the Owner with a greater Burden of Corn, or whatsoever is sown therein. In the same Soil, in a common Field where there is only a Hedge between, you'll find a very great Difference in the yearly Value; and when 'tis laid down to Pasture, it yields much more Grass than the open Field Land: The Hedge-Rows not only keep the Ground warm, and secure it from the violent nipping and dry blasting Winds, to which the Champion Fields are expos'd in the Spring; but likewise afford Shelter for the Cattle both in Summer and Winter: These Hedges also supply the industrious Husbandman with Plenty of Fire-boot, Plough-boot, and Cart-boot, and if carefully preserv'd, they furnish him with Timber, Mast for Swine, and Fruit for Cyder. Enclosing

of

of Lands employs the Poor; and 'tis generally obſerv'd, that a Country enclos'd, maintains at leaſt triple the Number of Inhabitants as a Champion Country, ſo great are the Profits attending this Huſbandry. Beſides theſe Advantages, Encloſures are not ſubject to ſeveral great Inconveniencies that attend the common Field and open Land; for ſuch, being ſow'd with Corn, are liable to Injury by Cattle, that ſtray out of the adjoining Commons and Highways: The Tenants or Owners of ſeveral Parts or Portions are bound to keep Time as well in Sowing as Reaping, or let their Parts lye waſte, leſt the Corn ſhould be ſpoil'd: And when the Corn is juſt come up, it receives great Damage, in a wet Spring, by Travellers with their Horſes to avoid a bad Road; ſome Years many Acres of Ground are loſt in a large common Field by this Means, all which are avoided in Encloſures. The ſmaller your Encloſures are, the greater is the yearly Value of the Land, and the better Crop of Corn and Graſs, and more flouriſhing Trees they produce; and the larger the Fields or Encloſures are, the more they reſemble the common Fields or Plains, being ſubject to the like Inconveniencies in ſome Proportion: And 'tis always found, that a Farm divided into many Encloſures, yields a greater Rent than if the ſame were in but few. But too many Hedges and Banks in rich water'd Meadows, waſte a great deal of the Land, and by their Shadow Prejudice the Graſs,

Graſs; as alſo by Dripping, for Graſs needs no Shelter, that abiding any Weather: And in caſe the cold Spring keeps it back, it fears no Drought, but has Water and Heat ſufficient in itſelf to bring it forwards; ſo that 'tis unprofitable in ſuch Ground to have numerous Fences, unleſs proper Æquatick Plants are ſet, whoſe Shrouds exceed in Value the Graſs they ſpoil, which may well be done in Rows, and on the Edges of the Banks, *&c.* and will amount to a conſiderable Improvement if the right Kind be choſen. We every Year experience the Benefit of Encloſures more and more; and I believe it was never ſo much practis'd as at this preſent Time. I have obſerv'd in ſeveral Parts of *England*, in my Travels lately, conſiderable Encloſures of Waſtes, Commons, Downs, and other before almoſt uſeleſs Lands, which indeed have put me out of the former Road, but given me a very agreeable Proſpect of the Products from the Improvement. Open Lands, of little Value, when enclos'd, till'd, and well order'd, will generally prove excellent good, and ſuddenly repay the preſent great Expence incident to Encloſures: And neither the popular ill-grounded Argument of its contributing to the Impoveriſhing of Land, nor the ſeveral Intereſts of Proprietors, nor yet Highways that frequently go over open Lands, *&c.* ſhould be any Impediment to this great Piece of Huſbandry. But Care muſt be taken to plant ſuch Trees, and in ſuch a Manner as they may ſucceed well, which leads me to treat of Fences. The

The Haithorn makes the beſt of common Hedges, and is either rais'd of Seeds or Plants; but ſometimes they do not appear the firſt Year; the Haw and many other Seeds ſleep two Years, and therefore are frequently dug up by the Huſbandman, deſpairing of their Growth, before they have gone their whole Time. As to their Management, when you have bury'd your Haws in a Trench, in Beds, for Tranſplantation, as ſoon as they peep, and as often as they require it, they muſt be carefully cleans'd of the Weeds for three or four Years, by which Time Seedlings will be of a Stature fit to remove: After this, in Ground which is more dry than wet, (for a watery Soil is unnatural to them) place the firſt Row of Sets, about a Foot Diſtance from each other, in a Trench of about half a Foot deep, even with the Top of the Ditch, in a ſloping Poſture; then raiſing your Bank about a Foot upon them, plant another Row, ſo as their Tops may juſt peep out over the Middle of the Spaces of your firſt Row; cover theſe again to the Height or Thickneſs of the other, and place a third Bank oppoſite to the firſt, and then finiſh your Rank to it's intended Height; this being done, guard the Top of your Bank, and outmoſt Verge of your Ditch, with a ſufficient dry Hedge, interwoven from Stake to Stake, to ſecure your Quick from Cattle; repair ſuch as decay from Time to Time, and after three Years growth, ſprinkle ſome Timber or Fruit-Trees among them for your

your Nurſeries. This is the common Way of Quicking; and the Seaſon for this Work, is from the Beginning of *February* to the End of *March*, or from *September* to the Beginning of *December*. If you make a Fence on a Bank of Earth, as ordinarily you do on the Verges of Coppices and other conſiderable Incloſures, caſt up your Ditch of about three Foot broad, and three Foot deep, beginning firſt to turn the Turf, upon which lay ſome of the beſt Earth to bed your Quick in, and there ſet your Plants, two in a Foot Space; let them be freſh gather'd, ſtreight, ſmooth, and well rooted, adding now and then at equal Spaces, of about twenty or thirty Foot, a young Oakling, Elm, Aſh, or the like, which in Time will be ornamental Standards and good Timber. And in *Herefordſhire* the Huſbandmen plant a Crab Stock at every twenty Foot Diſtance, in their Hedges, for the Grafting of Fruit. If you would multiply your Rows, about a Foot above the firſt, plant another Rank of Sets, ſo as to point juſt in the Middle of the void Space of the firſt: And if you would fortify your Foſs to the Purpoſe, do the ſame on the other Side, of the ſame Depth, Height, and Planting, and then cap the Top in Form of a Pyramid with the Bottom of the Ditch: Weed them conſtantly for 2 or 3 Years, eſpecially before *Midſummer*. Some cut their Sets, at 3 Years, even with the Ground, to forward their Growth, and find that in a Year or two, they will have

ſhot

ſhot as much as in ſeven, had it been let alone. When the Hedge is about ſix Years Growth, get it plaſh'd, in *February* or *October*, by ſome ſkilful Huſbandman: This is perform'd with a very ſharp Handbill, in the following Manner: Firſt, cut off all the ſuperfluous Sprays and Straglers; then ſearch out the principal Stems, and cut them ſlantways cloſe to the Ground, ſo far, 'till you make them comply handſomly; that done, lay them from you ſloping as you go, folding in the leſſer Branches that ſpring from them; and at every five or ſix Foot Diſtance reſerve an upright ſtrong Set, cutting it off at the Top to the Height of your intended Hedge, and let it ſtand as a Stake to fortify your Work, and receive the Turnings of the plaſh'd Sets about it. Oak is to be preſerv'd for Stakes in this Work, unleſs it be moiſt mooriſh Ground, when Withy, Aſh, Maple, or Hazel, driven into the Ground, will do very well. This Plaſhing makes an impregnable Hedge in a few Years, and may be repeated as you ſee Occaſion; but you muſt ſecure the Spring from Cattle with Thorns, 'till it is eſtabliſh'd. When there are great Trees or Stubs in Hedges, with Gaps for Cattle, which are common in old neglected Fences, cut them ſo near the Earth 'till you can lay them acroſs, that the Top of one may reſt on the Root of the other, as far as they extend, ſtopping the Cavities with their Boughs and Branches. In *Cornwall* the Huſbandmen ſecure their Wood and Lands with high Mounds,

on

on which they plant Acorns, which ſhoot ſo vigorouſly as to form a double, durable Fence. They likewiſe make Hedges of prickly Furzes, which are extraordinary Fences. Furz is propagated by Sets or Seeds, and will make a Hedge in three Years Time, if it be kept well weeded, and ſecur'd from Cattle, (eſpecially Sheep, which are great Devourers of it) 'till it attain ſome Bigneſs, and then nothing can injure it: If clipt it will thrive extremely, and be very thick; but if it be permitted to grow at large, it will prove the better Shelter, and yield excellent Fuel: 'Tis alſo an admirable Covert for Game, and proſpers in moiſt as well as dry Soils, tho' it is moſt proper for old dry Banks, or ſuch a dry Sand or Gravel, that nothing elſe will grow on't. When you plant any of the moſt robuſt Foreſt-Trees, eſpecially the Oak, at competent Spaces in Fields or Meadows, it is a very good Method to open a Ring of Ground, at about four Foot Diſtance from the Stem, and prick in Quick-ſet Plants, which by Clipping may be kept of what Height you pleaſe. Theſe Hedges will be very beautiful to the Eye, prove a good Fence, and yield uſeful Buſhes, Haws, *&c.*

If a Piece of Ground in a common Field cannot poſſibly be enclos'd without great Expence and Difficulty, I would adviſe the ſowing of it ſometimes with Clover: This will certainly invite all the Sheep of the whole

whole Field to that Paſturage, when the Harveſt is over, where they will, of Conſequence, drop their Dung, (the beſt Soil we are Maſters of for Corn-Ground) and on the next Ploughing it will be turn'd in; and by the very great Increaſe of the Crop of Corn the enſuing Year, very well recompenſe the Expence of Clover-Seed.

CHAP. IV.

Of Ploughs and Ploughing, &c.

SECTION I.

OF all the Inſtruments and Engines us'd in Huſbandry, the Plough is the moſt conſiderable; and of theſe there is a great Difference about their Make and Shape, every Country being fond of its own Invention. It is a needleſs Taſk to attempt a Deſcription of all Sorts of Ploughs us'd in the ſeveral Parts of *England*, neither would it be for my Purpoſe, to examine into the various Methods of forming this Engine, by whimſical Perſons, who oftentimes ſeek Curioſity more than Profit; ſo that I ſhall only take Notice of the moſt uſual Inſtruments of this Kind, and at the ſame Time ſet forth their particular Advantages and Defects. The Ploughs eſteem'd beſt for each Sort of Land are as follow: For ſtiff black Clay, the Plough that is large, long, and broad, having a deep Head, and a ſquare Earth-board, ſo as to turn up a large Furrow; the Coulter long, and a very little bending, with a large

Wing; and the Foot long and broad, ſo as to make the Furrows deep, is eſteem'd the moſt proper. The Plough for white, blue, or grey Clay, need not be ſo large as the former; but ſomewhat broader at the Breech, the Coulter long and bending, and the Share narrow, with a Wing coming up to arm and defend the Earth-board from wearing. And the Plough for red or white Sands, or Gravel, or any light Moulds, may be lighter and nimbler than the latter, the Wing not ſo large, and the Coulter thinner and more circular: Thus much in general; I come now to deſcribe the particular Ploughs accounted the beſt for Tillage. The One-Wheel-Plough may be made Uſe of almoſt in any Sort of Land, being a great deal lighter than other Wheel-Ploughs, and with which, being drawn by one Horſe, and held by one Man, one Acre a Day may be plough'd in a moiſt Seaſon. The double wheel'd Plough, us'd in *Hertfordſhire* and elſewere, is the ſtrongeſt, and apparently one of the moſt preferable Ploughs for many Uſes; 'tis alſo of the eaſieſt Draught, and ſuits beſt with all Sorts of Soils, except miry Clay in the Winter, which is apt to clog the Wheels: And even for thoſe Lands, it is the beſt Inſtrument to plough up Lays or Summer Fallows with; becauſe it turns in the Turf after the moſt convenient Manner, and cuts up Mole-hills or uneven Ground without levelling. The Wheels of this Plough are eighteen or twenty Inches high, and

and the Furrow-Wheel is ſometimes larger than the other that goes on the Land: It is uſually drawn with Horſes or Oxen, two on a Breaſt. The *Colcheſter* Plough is a fine light Wheel-Plough, with which and two Horſes the Huſbandman can cut up two Acres in a Day of their light Ground: This Plough has a very peculiar Iron Earth-board, made rounding, which helps to turn the Earth or Turf much better than any other Sort of Ploughs that has been as yet invented. The *Kentiſh* Plough is double wheel'd, and ſomewhat clumſey. The *Suſſex* ſingle Wheel Plough, is of a different Make from moſt other Ploughs, and more clouterly; It is very wide in the Breech, ſo that the Draught of Conſequence muſt be hard. The *Lincolnſhire* Plough is ſingular in its Shape, and very good for marſhy or fenny Lands that are ſubject to Weeds and Sedge; but the Ground muſt be free from Stones, by reaſon of its Coulter and the Largeneſs of the Share, which is commonly made very ſharp, and above a Foot broad. The moſt common plain Plough, call'd the Dray-Plough, made without either Wheel or Foot, is of an eaſy Draught, and the beſt Plough in the Winter for miry Clays; but the worſt in Summer, when the Surface of the Earth is hard: It is ſet higher or lower, as Occaſion ſerves, by Wedges. The *Caxton* Plough, invented to cut Drains with in ſtiff miry Clay Grounds, is like another Plough, only much larger and ſtronger: It

has two Coulters, bending inwards, to cut each Side of the Trench; the Share is very broad and flat, and cuts off the Bottom of the Trench; and the Mould-Board is three Times the Length usual in other Ploughs, to cast the Turf at a Distance. These are the several Sorts of Ploughs us'd in Tillage, to which I may add the double Plough, (which is where one Plough is fix'd to the Side of the other) that with two Men and four Horses, will plough up a double Quantity of Land in a Day, one Furrow by the Side of the other. Besides this, there is another Sort of Plough, whereby two Furrows may be plough'd at once, one under another; and the Ground is stirr'd up twelve or fourteen Inches deep, which is of great Use. The only foreign Plough I shall mention, is the *Spanish* Plough, with one of which and one Beast, the Husbandmen of *Spain* plough up two or three Acres of their light Lands in a Day: For the Use of the particular Parts of a Plough, the Coulter is a sharp turning Wheel, that cuts the Roots of the Grass or Sedge a-cross by its Motion, as it goes round, and the broad Share likewise cuts the Bottom of their Roots at the same Time: The Coulter, where the Land is stiff, must be the larger and the stronger, and go the deeper; for in deep Grounds the Weeds root the deeper; and for the better cutting up of them, it is usual to set on the right Side of the Coulter a small Wing, or Fin, which severs the Bottom

of

of the Roots in two, and eaſes the Draught of the Plough. Ploughs, in general, are to be great or ſmall according to the Depth and Strength of the Soil you plough, as has been already obſerv'd, and as the Earth is wet or dry; on which Account every Farmer ought to have ſeveral Sorts of Ploughs. Care is to be taken in the making of Ploughs, to have them go true to the Pitch they are ſet, and keep to the Line they are in, without ſwerving to the Right or Left, which depends very much upon the exact Formation of the Iron Work. A ſhort Plough, or a Plough with a broad Breech, cannot go ſo eaſy after Cattle as a long narrow one, and the latter may be made to turn a Ridge equal to the former.

Having now given you a Deſcription of the various Kinds of Ploughs, I proceed to Ploughing; but firſt I ſhall ſet forth the particular Buſineſs of a Ploughman. A Ploughman, or Carter, ought perfectly to underſtand Cattle, the Goodneſs of Corn, and the Nature and Quality of all Sorts of Ground, to which he is to have a juſt Regard, the Seaſons of the Year, and the Cuſtoms and Uſages of the Place where he reſides: He ought to conſider well how to lay and diſpoſe of his Furrows, of what Depth he ſhould plough them, and by what Means he may be able to raiſe the greateſt Share of Mould, all which his own Experience will beſt teach him: He is to chuſe and order his Cattle for the Diverſity

of Grounds he is about to till; wherein, if his arable Land lies againſt the Side of a ſteep Aſcent, as commonly barren Earths do, he is not to plough that Land directly againſt the Hill; for this very Labour would unavoidably breed ſueh a Wearifomneſs in the Cattle, beſides the Over-heating and Danger of Surfeiting, that there would be no going through with the Work: The Ploughman muſt therefore take Care to plough ſuch Ground ſide-ways overthwart the Hill, ſo as the Beaſts may tread as near as may be on the level Ground, and never directly up and down, by this Means the Cattle will not only perform their Work without Injury, but alſo the Lands be the better preſerv'd; for the Compoſt or Manure laid upon it, will not be ſo ſoon waſted away from the upper Part, by reaſon the Furrows, being turn'd croſsways upwards againſt the Hill, will neceſſarily hold the Soil within it much better than if they were laid ſtraight down in an even Deſcent. A Ploughman, thus qualify'd, being choſen, and obſerving theſe general Rules, I come next to the particular Management. If your Work be ploughing of Layes, which is the firſt cutting up of Graſs Ground for Corn, you are to commence your Labours in *January*, when the Land is wet; and the Turf being then tough, will hold to turn without breaking, in the exact ordering whereof conſiſts the greateſt Difficulty with Relation to this Sort of Ploughing: This Performance depends

pends very much upon the Make of the Plough; for the better ordering whereof, if the Earth-board does not turn the Turf well, ſome Nail upon it a ſmall Piece of Wood, to take the upper Part of the Turf as it riſes on the Earth-board, which will cauſe it to fall over with the Graſs Side downwards, and lay it ſo flat and true, that one can ſcarce diſcern where the Plough went. In the Ploughing of Fallows, (which is a conſiderable Benefit to the Land, and few Soils will bear more than two or three Crops without it) let your Ground lye all the Winter, ſo as the Sheep may eat off what Graſs and Weeds grow on it in *April*, or the Beginning of *May*; then, as ſoon as you have done ſowing of Corn, begin to plough up your Fallows: This firſt Fallowing in moſt Places ought to be very ſhallow, and the Land well turn'd, and kept cloſe together; for the thinner the Turf is, the ſooner it will dry through and kill the Weeds, eſpecially if the Weather be ſeaſonable and not too moiſt: But in ſome Places where there is a very cold Clay, that will not bear Corn well without being expos'd to the Heat of the Sun, it is neceſſary to make the firſt Ploughing of the whole Depth you deſign, that the Ground may be the more effectually warm'd. The ſecond Ploughing, which is call'd Twi-fallowing, is uſually in the Month of *June*, when you are in all Caſes to go your full Depth: This Ploughing is generally perform'd with the Team early

in the Morning before the Dew is off the Grafs, that fo the Labourers may have Time to feed their Cattle, before they repair to carrying of Hay in the Afternoon, which may be done at the fame Time. About the latter End of *July*, or the Beginning of *Auguft*, is the Seafon for the third and laft Ploughing, call'd Tri-fallowing; this is done juft before you fow your Wheat or Rye; and if the Land rifes full of Clots, or be a binding Soil, you are to make it fine by Harrowing upon the Approach of Rain; but then it muft not lye long before you plough it up into fmall Ridges; and, as near as you can, leave no Weeds or Grafs-Turfs unkill'd or unbroke with your Harrows; becaufe they four your Land, and cauſe the Mould to lye hollow from the Roots of the Corn. If your Ground be a heavy Clay, it ought to be plough'd up in a Seafon as dry as you can poſſibly chufe, to prevent the Encreafe of Weeds, which would be otherwife unavoidable; but Stone-brafh and light Soils are to be till'd in a moderate dry Seafon: And if the Ground be moift and deſign'd for Wheat, it is good Management to lay the Furrows high and fhelving between, and not far afunder, for the more effectual Draining off the ſuperfluous Moiſture, which at ſome Seafons in the Year is very pernicious. Where Land is but indifferent, and Manure is not to be had, Fallowing every other Year is found a great

great Improvement, and is a very ancient Piece of Husbandry, as we are inform'd by *Xenophon*, *Pindar*, *&c.* In some Parts of *England* the Farmers fallow their Land after they have taken two Crops, the first of Wheat, and the second of Pease: In *Staffordshire* it is a frequent Practice to give their Lands a Winter Fallowing, besides the three Summer Fallowings, and to lay their Land up in Ridges, when they sow Barley, which seems to be the Method mention'd by *Virgil.*

The greedy Villager likes best that Mould,
Which twice has felt the Sun, and twice the Cold.



SECTI-

SECTION II.

Of Sowing all Sorts of Grain

IN all Sowings great Regard is to be had in to make Election of good and proper Seed. It is adviſeable for the Farmer to procure Seed from a worſe Soil than his own; but if he cannot get ſuch, 'tis more profitableto have it from good Land, than not to have Change; for all manner of Seeds degenerate very much when they are ſown long upon any Land, tho' moſt upon bad Ground.

If you obtain Seed from a diſtant and oppoſite Part of the Kingdom, as from the *North* to the *South*, you'll find the greateſt Improvement, and the farther *Northward* the greater ſtill will be the Advantage. The Reaſon why Variety of Seed is beneficial to Land, is this: Every Sort of Grain draws from the Earth only its proper Juice for its Nouriſhment; ſo that the Sowing of the ſame Grain often, exhauſts and weakens the Ground, by ſtill attracting the ſame Kind of Salts, one Crop after another. When you have choſe a proper Seed, the next Thing to be conſider'd, is the agreeable Soils, Seaſons, and Quantities, obſerv'd in ſowing all Sorts of Corn. The Clay and Sandy Soils are generally eſteem'd

ſteem'd the beſt for Wheat, this Corn always requiring a ſubſtantial Earth: The Seaſon for ſowing of Wheat is about *Michaelmas*, a Month before or a Month after. If you commence your Sowing before *Michaelmas*, two Buſhels to an Acre will be a ſufficient Quantity well manag'd; but if you do not begin this Work 'till after *Michaelmas*, it will be neceſſary to give your Ground two Buſhels and an half an Acre, otherwiſe you may be diſappointed in your Crop: For in all Caſes of Sowing, the later your Seaſon is, the greater Quantity of Seed muſt be allow'd; and dry Ground cannot be ſown too ſoon in a proper Seaſon, that the Corn may come to Maturity in a cold Summer. Light gravelly Soil is the moſt proper for Barley and Oats; and it cannot be over rich for this Grain, tho' it may for Wheat. The Seaſon for Sowing of Barley is the Month of *April*, and your Quantity ought not generally to exceed four Buſhels to the Acre, unleſs you are very late in your Sowing. The Seaſon for ſowing of Oats is any Time in *March*, and the Quantity of Seed may be from three Buſhels and an half to four Buſhels the Acre; wherein you may obſerve, that if the Ground be light, the leſs Seed will ſuffice, becauſe ſuch Land is leſs ſubject to Weeds than any other. Moiſt heavy Clay Ground, not fit for Corn, is moſt agreeable to Peaſe and Beans: You are to ſow theſe Sorts of Grain in *February*, after the Rate of four Buſhels to the Acre. New-

broke

broke Ground ought to be ſown with ſeveral Sorts of Grain, before it will be fit to receive Wheat: The firſt Year you may ſow it to Oats, the ſecond to Barley, and the third to Beans or Wheat: And Beans and Peaſe are excellent to kill the Weeds, and prepare your Arable for the more noble Sorts of Grain, particularly Wheat. It is uſual in many Parts of *England*, to ſow Hop, Clover, and Ray Graſs, amongſt Wheat or Barley at the ſame Time with it; this will not only enrich the Ground, by the Soil of Cattle feeding on it, for a conſtant Tillage, but likewiſe expeditiouſly bring plough'd Ground to a good Sword, if you intend to lay it down to Paſture; an Acre of Ground will require ten Pound of Clover-Graſs Seed. *French* Graſs is alſo a very great Improvement to the Herbage of ſome Ground: The Soil for this Seed ought to be a moiſt Gravel, but not too wet, and pretty rich: It muſt not be fed with Sheep.

Clover Graſs is eſteem'd the principal of Graſs, both for the great Improvement it brings by its prodigious Burden, and by the Excellency of the Hay for Food for Cattle: One Acre of it will feed as many Cows as ſix Acres of other common Graſs; the Milk will be much richer, and more in Quantity; and it will fatten well. This Graſs may yield three Crops in a Year, and, after all, be Food for Cattle in the Winter. When it begins to knot, which will be about the Middle of *May*, the firſt Crop, it is to be cut; and if it grows not

not too ſtrong, it will be exceeding rich and good. For the Time and Manner of ſowing it, when the Land is manur'd, firſt ſow your Barley or Oats, and harrow them; then ſow the Clover Graſs pretty thick, and harrow it over likewiſe; the Corn, in this Caſe, is to be thinner than ordinary.

All Summer Corn does beſt in a dry Seaſon except it be black Oats, which require more Moiſture than any other Grain; but a very dry Spring is fatal to new-broke Ground the firſt Year. I omitted in the Section of Plowing taking Notice, that tho' three Earths are neceſſary for Wheat, yet two Earths will ſerve for Barley, and one for Oats is ſufficient juſt before ſown: And that Regard may be had to the Strength and Nature of the Land; for rich heavy Ground cannot well be plough'd too often, to make it light and the better Manure, by killing the Weeds, as light poor Ground cannot be plough'd too ſeldom, for Fear of impoveriſhing it. Wheat cannot well be put into the Ground in a Seaſon over wet, and Rye cannot be ſown too dry:

CHAP.

CHAP. V.

Of Improvements by Draining of Fenny Lands, &c.

THERE are two Sorts of Fenny Lands, *viz.* thoſe as are conſtantly wet, only in a dry Time ſhallower than in a moiſt Seaſon, and thoſe that are only caſually drown'd by up-land Floods and great Rains: The laſt are generally of a very large Extent, and ſituate upon a Level; ſo that the Water cannot run off from them, but it remains 'till the dry Weather occaſions it to be ſuck'd up. In draining either of theſe Sorts of Lands two Things are to be conſider'd, either the laying of them abſolutely dry, or diverting of the Land-Floods, Rains, *&c.* The former makes a perfect Cure, and is effected thus: If your Grounds lye between Hills, which have generally Deſcent enough to drain them, but have Springs pent by a Weight of Earth, that dams in the Water, ſometimes cauſing it to ſpread on the Ground ſo far as it is ſoft; in the drain-

draining of ſuch Lands, you are to obſerve where the loweſt Place is, and what Deſcent it has, that ſo the Earth may be cut deep enough to convey all the Water away from the Bottom of the Bogg; and it muſt be cut a Spit below the Springs, or elſe the whole Work will be to little Purpoſe. In the diging of this Drain you are to begin at the loweſt Place, and ſo carry it towards the Spring-Head, where you muſt make ſuch Trenches, either round or croſsways, as you ſhall find neceſſary for the abſolute draining of your Land. For the draining of flat Levels from Land-Floods, and low Fenns, whereby the Water is diverted, and the Ground render'd ſerviceable, you are likewiſe to conſider the loweſt Part of the Ground, and to carry off the Water that Way before you attempt a thorough Draining. When this is taken Care of, then proceed to make your principal Drains, which are to be cut wide, and deep enough to carry off the Water from the whole Level, and as ſtreight as is poſſible, conveying all your ſmall Drains into the middle one, which is the chief Article of the Work; always obſerving to make the Drains largeſt at the Mouth, and to narrow them by Degrees, as they run more into the Lands. Theſe Drains are to be well cleans'd from Mud and Weeds the *Spring* and *Fall*. In the Fens of *Lincolnſhire*, it is uſual for Occupiers of Lands to erect a particular Wheel for Draining, turn'd with large

large Windmil-Sails, and made proportionable to the Strength that is to drive them; so that a great Quantity of Water may be row'd along upon a Flat, where it is not to be rais'd to any Height: For this Purpose the Spoaks are made broad and set a little sloping, to row the Water more readily; and they are exactly fitted to move between two Boards: But when the Engine is to raise the Water any small Height above the Level, the Spoaks are made hollow like Scoops, and set so, as to deliver the Water at the Height intended: And if the Place require the Casting of it over a Bank that is of any considerable Height, the Ends of the Spoaks are to be form'd like Boxes, which, as the Wheel rises, let the Water run into the Circle made hollow to receive it, and a Channel being cut on the Back of the Spoaks, delivers the Water as the Wheel descends. As this Wheel is effectual for draining of Lands, so an Engine call'd the *Persian Wheel*, will raise a Quantity of Water sufficient for Overflowing of Lands that border on the Banks of Rivers, where the Streams lye so low, as to be incapable of doing it. "This "Wheel may be made of any Size, according "to what Height you would have the Water "convey'd, and the Strength of the Stream "that gives Motion to the Engine. One Sort "of these Wheels is made after the manner of "an under-shot Mill, with a double Ring, "into which are let two Pins, whereon the

"Floats

" Floats are faſten'd, which are made hollow; " the half that is moſt remote from the Wheel " holds that Water which is taken in at the " open Place above the Middle of the Back of " the Float; and as the Wheel goes round, " and the Float laden with Water riſes, ſo " the Water by Degrees tends towards that " Part of the Float which is next the Wheel: " As the Float ſurmounts the Ciſtern or Re- " ceiver, the Water diſcharges it ſelf into it, " every Float ſucceeding each other, and all " emptying themſelves into the Receiver; " ſo that if one Float contains a Gallon of " Water, and there be thirty Floats on the " Wheel, at one Motion round it delivers " thirty Gallons of Water into the Ciſtern. " Such a Wheel may be about fifteen Foot " Diameter, and the Floats at eighteen Inches " Diſtance, ſo as to throw out the Water " eleven or twelve Foot above the Level of " your Stream. The Wheel will go round " four times in a Minute, and carry up a- " bout one hundred and twenty Hogſheads of " Water in an Hour, only by penning or ſtop- " ping an ordinary Current. This Engine " will very well water thirty or forty Acres " of Land; it works conſtantly, and will laſt " many Years without Repairs, ſo as it be " not permitted to ſtand ſtill; for then one " Side would grow dry and lighter than the " other; and the ſlower the Motion is, the " better the Water is deliver'd." The Drain-

ing, and Overflowing of Lands, make both very conſiderable Improvements; the former done on a fenny, marſhy, ſowr, Paſture, to preſerve it from Ruſhes, and render it healthy; and the latter is uſually practis'd on Meadows, and indeed generally affords the greateſt Advantage to the Owner.

CHAP.

CHAP. VI.

Of Hops and Hop-yards, and their Management.

THIS is one of our moſt profitable rural Employments; but it comes more under the Cognizance of the Gardener than the Huſbandman; every Poſſeſſor of a Plot of Ground being capable of managing a Hop-yard without the Expence of Ploughs, Cattle, *&c.* for its Culture, (not but the Charge of keeping a Hop-Garden in Repair is very conſiderable) and by manual Induſtry, with the Uſe of the Spade and Hoe, to go through the ſeveral Particulars of this Buſineſs. The very great Eſtates acquir'd within an Age paſt in the Merchandize of Hops, is a ſufficient Encouragement to all induſtrious Perſons to venture on theſe Plantations; and beſides the uncommon Profit, they employ a greater Number of Poor than any other rural Affairs whatſoever. The Planting, Soiling, Digging, Hoeing, Polling,

Tying, Picking, *&c.* render a great many Hands not only of Men, but Women, and Children, neceſſary in their Diſpatch: And the Buſineſs, for the moſt Part, is ſo little laborious, that thoſe Perſons as are unfit for many other Employs, may follow it with Pleaſure: I have known at leaſt thirty Pounds *per Annum* made, clear of all Expences, from an Acre of Ground, and a Garden, of a conſiderable Extent, contain the ſame Quantity *per* Acre, one Acre with another. This has occaſion'd me to view the noble Plantations at *Farnham* with the greateſt Satisfaction: The Neatneſs and Exactneſs of theſe Gardens make them appear like regular Woods or Groves. And in many Parts of *Hampſhire* the Inhabitants are ſo very ſenſible of the Advantage ariſing by theſe Plants, that their Gardens are fill'd with 'em; and there is nothing more common, than to ſee Hedges in diſtant Fields entirely ſurrounded with Hops. But to proceed to their Management: This Plant delights in the richeſt Land, and a deep light Mould, the ſame being better if mix'd with Sand; and a black Garden Mould is excellent for it: A Piece of Ground a little inclining to the South, the Soil being mellow and deep, and having Water near at Hand, in the Summer, will do very well: And indeed moſt Sorts of Lands will ſerve for Hop-Gardens, except it be ſtony, rocky, and ſtiff Clay; but if for Want of a better Soil you are neceſſitated to plant in a cold, ſtiff, ſour, or barren Land, the beſt

and

and moſt proper Means is to burn-beat it about the End of *September*, which will occaſion a very great Improvement: However, let your Ground be in what Condition it will, Care muſt be taken in the Beginning of Winter to till it either with the Plough or Spade. As for the Planting of Hops, ſome do it in Squares, Checker-wiſe, which is moſt convenient, if you intend to plough with Horſes between the Hills; others, in Form of a Quincunx, that is better for the Hop. Which Way ſoever it be, pitch a ſmall Stick at every Place where there is to be a Hill, after aſſigning the Diſtances, and laying out the Rows by Line and Meaſure; and when that is done, in caſe the Ground be poor or ſtiff, let ſome of the beſt Mould that can be procur'd, or a Parcel of the beſt Dung and Earth mix'd, be brought into the Garden; at each Stick dig an Hole of about a Foot ſquare, and fill it with this Mould or Compoſt, wherein your Plants are to be ſet. The Diſtance of the Hills, in hot dry Ground, may be five or ſix Foot only; but in moiſt, deep, and rich Mould, which bears large Hops, you muſt place them ſeven or eight Foot aſunder; and ſo, according to the Goodneſs of the Ground, you are to lay out the Hills. As for Compoſts for the Hop-Garden, if the Dung you intend to uſe be rotten, it muſt be mix'd with two or three Parts of the common Earth, and ſo left 'till the Spring, and that will ſerve to make up the Hills withal: Your Dung is not

to be new, which is injurious to Hops; and that of Horſes, Cows, or Oxen, tho' very good, is not to be compar'd with Pigeons Dung, a little of which laid to a Hill and mixt, that it may not be of too great Heat in a Place, is of very great Advantage. Sheeps Dung is alſo very good; ſo that if ſome of it, with Pigeons Dung, be ſteep'd in Water 'till it is quite diſſolv'd, and a Diſhful of it pour'd into the hollow Place at the Top of every Hill, inſtead of common Watering, the Vertue of it will immediately penetrate to the Roots, and prove more expeditious for Enriching of Hop-Hills, and leſs expenſive, than any other Way whatſoever.

Your Ground being laid out and ſoil'd, we come to the Planting of Hops, wherein theſe Things are to be conſider'd; the Choice of Sets, the Pruning, and the Seaſon for planting. The moſt proper Time of Planting Hops is in *October*, before the Approach of the cold Weather; and this Work muſt not be deferr'd too long, that the Plants may have Time to ſettle before the Spring. In the Choice of your Sets, the largeſt, of about eight or ten Inches in Length, and having three or four Joints or Buds in each Plant, are to be preferr'd; but the Roots that grow downwards are not to be cut. Theſe Plants are to be put into the Holes (prepar'd for them before taken out of the Ground) at each Corner of the Hole to be one, and the Earth to rais'd two or three Inches about them, unleſs

you

you plant ſo late, that the green Sprigs are ſhot forth, when they are to be cover'd leſt you deſtroy them. The Hills are not to be too high the firſt Year; but to be encreas'd in Extent, as the Roots of the Hops encreaſe in Stature, and produce great Quantities of Shoots to require it: It is the ſame of Poles; for the firſt Year two ſmall Poles will ſuffice, the next Year there muſt be two or three large ones, and the third Year four of the largeſt Poles will be neceſſary to ſupport the Crop, if your Hops are large, in a thriving Condition, and the Hills are ſo far aſunder as to have Room for them. In the Management of old Hops, if they are worn out of Heart, you are to dig them about the Beginning of Winter, taking away as much of the old barren Earth as you can, and putting fat Mould inſtead thereof; but if the Hops are ſtrong and in good Heart, Manuring and Pruning is moſt adviſeable; for this perfectly reſtrains them from a too early Springing. In the Dreſſing of them, you are to pull down your Hills, and undermine round about 'till you come near the principal Roots; then take the upper or younger Roots in your Hand, and ſhake off the Earth, which being remov'd with the ſame Tool, you'll diſcern where the new Roots grew out of the old Sets: Be careful not to injure the old Sets; as for the other Roots they are to be cut away, neither need they be ſpar'd to the Delay of the Work, except it be ſuch as you intend to plant: No

more of the Roots muſt be uncover'd than the Tops of the old Sets in the firſt Year of cutting, and at what Time ſoever the Hill is cut down, the Roots are not to be cut 'till *March*. At the firſt Dreſſing all ſuch Roots or Sprigs as grew the Year before out of your Sets, are to be cut away within one Inch of the ſame; and afterwards, yearly, they muſt be cut as cloſe as can be to the old Root, unleſs it be a weak Hop, when ſome principal new Shoots are to be left at Dreſſing. The old Roots are red, but thoſe of the laſt Year are white. The Root being dreſs'd, the rubb'd Mould is to be apply'd; and in Dreſſing, as in Planting, the down ſhooting Roots are not to be medled withal, nor the Hills to be made too high at firſt. When the Hops appear above Ground, you are to begin to pole them, and not before; for 'till then you cannot judge where the largeſt Poles will be neceſſary: In the doing of this, it is good to let the Poles lean outwards; and to ſet them towards the South, is eſteem'd a good Piece of Huſbandry. When the Hops are ſhot two or three Foot out of the Ground, the next Buſineſs is to conduct and tye them to ſuch Poles as are fit for them; this muſt not be deferr'd, and in the doing of it, you are to be ſure to tye your ſtrongeſt Shoot to the largeſt Pole, and not to faſten them ſo cloſe to the Pole, or with ſuch Tackle, as to gaul them, large coarſe Yarn being eſteem'd the beſt Bandage for that Purpoſe. About *Midſummer* they begin

gin to leave running at Length, and then to branch; but such of them as are not at that Time got up to the Tops of the Poles, should have their Tops nipt off, or else diverted from the Pole, that they may branch the better, which they will do much more than if they were permitted to extend in Length. In *May*, after Rain, it will be sometimes necessary to make up the Hills with a Hoe or Spade, or by Ploughing to destroy the Weeds; and in a dry Spring they ought to be water'd; for which Reason it is prudent to situate your Hop-Garden near some Rivulet or Stream, or, for want of this Convenience, dig a Well from some Pond made with Clay, in the lower Part of the Ground, to receive hasty Showers by small Aqueducts leading to it, which is the best approv'd Water of any for this Purpose. After every Watering, (which need not be above twice or thrice during the Summer, provided it be thoroughly done) take Care to make up the Hills, wherein Holes for the Water were made, with some of the Parings of Earth, and the Weeds and coolest and moistest Materials that can be got. Towards the End of *July*, or Beginning of *August*, Hops begin to blow, 'till which be past, they are not out of Danger from Blights: In forward Years they are sometimes ripe at the latter End of *August*, and if they are not then in full Maturity, they are so always early in *September*. When they look a little brownish, gather them without Delay, but not while they are wet;

wet; and if the Dew be on them, or a Shower of Rain has taken them, ſhake the Pole and they'll dry the ſooner. If they be over-ripe, they'll be apt to ſhed their Seed, wherein conſiſts their chiefeſt Strength; neither will they look ſo green as otherwiſe they would do, but ſomewhat brown, which much leſſens their Value; tho' the longer they ſtand the leſs they waſte in Bulk, and the more they encreaſe in Weight. The moſt expeditious and ſafeſt Way to gather them, is to make a Frame with four ſhort Poles or Sticks laid on Forks driven into the Ground, of that Breadth, as to contain either the Hair-Cloth of your Kiln, or a large Blanket tack'd round it about the Edges. On this Device the Poles with the Hops on them may be laid, being either ſupported by Forks, or the Edges of the Frame; at each Side whereof the Pickers may ſtand or ſit, and pick the Hops upon it. When the Blanket or Hair-Cloth is full, untack it, carry it away, and place another, or the ſame empty'd, in the ſame Frame again; and this Frame may be daily remov'd with little Trouble to ſome new Station, for Convenience in the Work.

As faſt as the Hops are pick'd they muſt be dry'd; the *Flemmings* and *Hollanders* erect an Ooſt or Kiln on purpoſe for this Buſineſs; but we commonly dry them on an ordinary Malt-Kiln in a Hair-Cloth; tho' ſome Perſons are at the Trouble of making a Bed of flat Ledges about an Inch thick, and two or three

three Inches broad, ſawn and laid one a-croſs the other, checkerwiſe, the flat Way, the Diſtances being three Inches or thereabouts; the Ledges are to be ſo enter'd and put one into another, that the Floor may be even and ſmooth: This Bed may reſt on two or three Joyces ſet edgeways to ſupport it from ſinking; then cover it with large double Tin ſolder'd together at each Joint, and ſo order the Ledges before they are laid, that the Joints of the Tin may always lie over the Middle of a Ledge; and when the Bed is wholly cover'd with Tin, fit Boards about the Edges to keep up the Hops, only let one Side be ſo order'd, to remove upon Occaſion, that they may be ſhov'd off as before. The Hops may be turn'd on this Tin-bed, or Floor, with great Safety; and not only a ſmall Expence of Fuel will do, but any Manner of Fuel ſerve in this Caſe, as well as Charcoal, and the Smoke not paſſing thro' the Hops: But Care muſt be taken to make Conveyances for it at the ſeveral Corners and Sides of the Kiln. The eaſy turning of Hops is a Waſte and Injury to them, and an Expence of Fuel and Time: It is beſt to have a Cover to the upper Bed whereon the Hops lye, that may be let down and rais'd at Pleaſure; this Cover may be tinn'd over, by nailing ſingle Tinn-Plates to the Face of it, that when the Hops begin to dry, and are ready to be burnt, you may let down the ſame within a Foot and leſs of the Hops, which will reflect the Heat upon them, that

the uppermoſt Hop will be as ſoon dry as the lower ones, and all of them be equally dry'd. When your Hops have lain about a Month after drying, on a boarded Floor, to cool and grow firm and tough, you are to proceed in their Bagging: Firſt, you are to make a round or ſquare Hole in an upper Floor, big enough for a Man with Eaſe to go up and down, and to turn and wind himſelf about; and it is generally fitted to the Mouth of the Bag: Then tack a Hoop about the Mouth of your Bag faſt with Pack-thread and a Pack-Needle, that it may ſupport the Weight of the Hops when full, and of the Perſon that treads them: This done, let the Bag down thro' the Hole, and the Hoop will reſt above, ſo as to keep the Bag from ſliding wholly thro. Into this Bag caſt a few Hops, and before you go in to tread, let an Handful of the Hops be ty'd at each lower Corner with a piece of Pack-thread, to make as it were a Taſſel, whereby the Bag, when full, may the more conveniently be lifted or remov'd: Then go into the Bag, and tread the Hops on every Side, another ſtill caſting in as faſt as you require, 'till it be full. When 'tis well trodden and fill'd let the Bag down, by unripping the Loop at Top, and cloſe the Mouth of the Bag, filling the two upper Corners as you did the lower: Hops thus bagg'd, and well pack'd, will keep ſeveral Years in a dry Place, taking Care that they receive no Injury by Mice; for tho' theſe Vermine will not eat them,

them, yet will they make their Neſts in 'em, and thereby do you a conſiderable Damage.

I am come now to a Concluſion of my Work; and if I have, towards the latter End, touch'd upon ſome Subjects which I did not ſeem to intimate in the Beginning, I doubt not but they will be excuſable, ſince it was the more effectually to mix the profitable Part of Gardening with that of the pleaſurable, and to perſue the Improvements of Lands in the utmoſt Latitude. This I was adviſed to by my Friends; and, upon a thorough Reflection, I thought it entirely conſiſtent with my Deſign of both Diverting and Inſtructing the Publick; ſo that I have made a ſmall Alteration in my Method; and leaſt I ſhould tire the Patience of my Reader, I have omitted, for the moſt Part, in my two laſt Volumes, all Dreſs which might ſeem ſuperfluous, and kept more entire to Informations; which I am perſuaded cannot be diſlik'd, but on the contrary approv'd, ſince it leſſens the Price of the Performance, as well as contracts it.

I do not pretend to accuſe any Perſons of borrowing from other Writers, or preſume to ſay that my Book is free from any Thing of that Nature, as does the Reverend Mr. *Laurence*; I am not aſham'd to confeſs that I have taken ſeveral valuable Hints and Informations from the beſt Authors extant, (as I have already particularly obſerv'd in the Preface to my 2d Volume) being very ſenſible that

that my Book would have been very deficient and incompleat without them: But I hope the World will do me the Juſtice to own, that there is no Particular I have taken from the Writings of any other, but what appears here with Additions and Improvements.

It has been my great Ambition and Deſire to entertain the Nobility, Quality, and Gentlemen of Eſtates, with the beſt Deſcription I were capable of in my Profeſſion, at the ſame time having a due Regard to the moſt minute Information neceſſary to be communicated to the practical Gardener. This I could not have done without the Meaſures I have taken; and if I have the good Fortune not to fail in the former, I think I am pretty ſure of pleaſing the latter.

That Part of Gardening relating to Flowers, Green-houſes, *&c.* I have paſs'd over without particular Notice; and indeed thoſe Heads have lately been ſo ingeniouſly treated of by Mr. *Bradley*, that I have little Room at preſent to ſay any Thing very material on thoſe Subjects. Mr. *Bradley* has not only ſhewn himſelf a ſkilful Botaniſt, but a Man of Experience in other Reſpects, and is every where a very modeſt Writer.

To conclude, I hope I ſhall not be too ſeverely dealt with by the Generality of Mankind, when I have taken ſuch elaborate Pains to divert them: And as I began with Poetry, and in the Summer Seaſon all Gentlemen are

fond

fond of Retirement in the Country, I don't doubt but they'll readily join with me in these Lines of the celebrated Mr. *Addison*;

Bear me, some God, to Baia's *gentle Seats,*
Or cover me in Umbria's *green Retreats;*
Where ev'n rough Rocks with tender Myrtle bloom,
And trodden Weeds send out a rich Perfume:
Where Western Gales eternally reside,
And all the Seasons lavish all their Pride:
Blossoms, and Fruits, and Flow'rs, together rise,
And the whole Year in gay Confusion lies.

F I N I S.

I hope the Reader will excuse the Want of three or four Plates in this Volume, (which were at first intended) there being one Plate illustrating a universal Design of Rural Gardening, introductory to the several Descriptions.

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